STRICTURE OF THE URETHRA:

ITS DIAGNOSIS AND TREATMENT FACILITATED,

BY THE USE OF

NEW AND SIMPLE INSTRUMENTS.

WITH ORIGINAL WOOD ENGRAVINGS.

BY

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PREFACE.

SURGEONS are agreed upon one point, namely, that inflammation in the urethra is the cause of stricture in that canal.

One authority on the subject says—"There is no fact which may be conceived to be better established than this."

Taking then this *fait établi*, how comes it that stricture of the urethra and its consequences, are as rife as ever amongst us?

In arriving at the conclusion that inflammation, whatever be its source or origin, is the cause of this dreaded disease, it appears to me that we have no great problem to solve, in suggesting or adopting the means for its prevention.

If the source of the supplies of a besieged army be cut off, the natural inference is that their supplies are stopped—and the army in due course perishes.

Why then can we not treat inflammation in the same manner, it being the cause of stricture? Find the

source and destroy that. It is easier to stop up a stream at its comparatively insignificant source, than to divide the consequent river that carries down acres of mud into the sea. "Melius est petere fontes, quam sectare rivos.'

On reviewing the cases of strictures that so constantly apply for treatment, it will be found by the history that no mean proportion of them are due to the following causes :—

1.—Cases of erroneous diagnosis, the patients having been subjected to unnecessary catheterism and suffering.

2.—Cases complicated with false passages, the deplorable consequences of rash and violent attempts at forcing strictures.

3.—Cases, the result of negligent and misdirected treatment of gonorrhœa.

Conceiving these examples to be at least that portion that forms the greatest part of the source of inflammation, I venture to suggest that if gentleness and dexterity were more generally exhibited by the profession, combined with patience and common sense,—the golden rules to guide both patient and surgeon,—many would be saved unnecessary suffering, and a gradual decrease and abolition of at least one source of inflammation would crown their efforts.

It is not in the capacity of author that I am anxious to appear. My object in writing this book is to

employ it as a means or vehicle of bringing under the notice of the professsion a few suggestions and remarks on the very important subject of Stricture of the Urethra.

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GENERAL REMARKS.

Of all the passages or canals in the human body, in not one do we find stricture occurring so frequently as in the urethra, although the others do their amount of work. Some authors would say that the urinary passages have more constant work. The œsophagus, the intestinal tract, the rectum—do they not do their share? Yet do we find strictures there as often as in the urethra? Certainly not. Why, because in our hypochondriacal nation there is no tendency to imagine that there is a stricture of those parts. Ninety-nine out of every hundred no sooner have an attack of gonorrhœa, than they are led to imagine, or they conjure up in their own minds, that stricture, more or less, will follow, if not at once, at some distant date. So they watch and wait for it, and as soon as any symptoms of stricture, as they imagine, present themselves, so they consult, either their medical adviser or a specialist. Then down this intricate little passage are thrust the deadly weapons—bougie and catheter, large and small, flexible or solid—and, as the hand is that manipulates the instrument, so the patient has a stricture, or he has not.

If the patient falls into inexperienced hands, he may be fortunate if he escapes uninjured. On the other hand it happens at times, that if he consults the specialist—or, again, the one who is termed the "consultant"—if the patient has the remotest tendency to a narrowing or contraction, more often than not stricture is diagnosed, and a gentle course of catheterism is advised; this done, the foundation of the true stricture is invariably laid. If these slight contractions were left alone, the probability is, that the patient would live to a ripe old age, suffering very little, if any inconvenience from his stricture; whereas, this course of catheterism will, instead of counteracting what source of irritation there may have been in the urethra, only excite it, and so be productive of still more contraction. Would it not be more sensible to wait or postpone catheterism until there be real cause for it; as long as the patient is able to pass his water in a tolerably fair stream, living a careful and moderate life, what cause is there for dilatation? We all know, or should know, how extremely liable the urethra is to inflammation, and no matter how slight this is, it is conducive to contraction. Again, one can never depend upon his subject; some are more inflammatory than others, and it is especially the former who suffer the most. The bounds which surgical skill has taken of late years are no doubt marvellous; there is hardly a question which the surgical side of the profession has not solved, but enough at any rate which will last the present generation. What has to be done or undone remains buried in the future, yet withal so simple does it appear, that amongst the abundant opportunities the surgeon has for investigation no disease has remained at such a standpoint as stricture of the urethra. On that subject we are comparatively as we were three

hundred years ago, and so will it remain as long as the indiscriminate use of the catheter continues. Many may smile and treat with levity what I say, but it is the truth nevertheless. Truth *is* stranger than fiction. Look at the vast amount of printed controversy there is on the subject. Take even from the time of Hunter to the present day. Every author more or less differs in treatment, they would even try to dispute about the cause, but it resolves itself in all cases as Sir Henry Thompson sums up, that "inflammatory action in the urethra is unhesitatingly placed first and foremost among the *causes* of organic stricture, whatever be its source or origin." Of course it is the cause, the only cause. Why muddle the students' head with other causes; what all these authors should strive at would be to tell one how to prevent this inflammatory action in the urethra. Were I asked to state the cause of stricture, I should say:—

1. Organic Stricture due to deposition of inflammatory matter and subsequent organisation.
2. Organic Stricture due to cicatricial tissue.

Would my answer be wrong? A person can go on, *ad infinitum*, dividing and subdividing, until he finds himself drifting hopelessly like a log of wood in the ocean.

Now I am taking stricture of the urethra pure and simple, that which we define as a stoppage or impediment to the flow of urine due to organic changes in its walls.

The primary cause is inflammation, that once occurring, its ending or mode of organisation varies in different subjects, and upon the individual and the method of treatment, depend the ultimate results.

Inflammation has two forms in itself, acute and chronic. When, therefore, acute inflammation in the urethra is

treated as acute inflammation, the chances are, all will go well, no complications will arise, but when it is meddled with instrumentally, it is transformed into a chronic state. Once get that form to deal with, you will only learn its ending when its end arrives. I may here quote a competent authority, Mr. Bryant. He says "in the majority of cases of organic stricture the contraction is of a chronic nature, in some it may be rapidly traced to a more or less distinct chronic inflammation of the passage, BUT YEARS WILL FREQUENTLY PASS AWAY before any obstruction to the flow of urine becomes of sufficient importance to arrest the attention of the patient, and this may perhaps be first drawn to the part by spasm of the urethra from a sudden attack of retention of the urine which has been induced by some act of irregularity or exposure to cold."

Then the patient's troubles commence; if instead of having instruments thrust down his urethra, first by one surgeon, then by another, he would diet himself a little, live more regularly, avoid irritating drinks, and undergo a gentle medicinal treatment, I am certain he would not be troubled for some time again with retention, and perhaps never. As I have before stated, so long as a fairish stream exists, we need not worry about instruments. I might here state as regards the stream, that its volume may alter with age alone. The muscular power of the bladder has not the same tonicity and force to expel the urine at 50 or 60, as at 20 or 30.

Now, Sir Henry Thompson's experience would teach us that stricture is a sure sequel to gonorrhœa, for out of 217 cases he brings forward, 164 are due to gonorrhœa, so he asserts, even though in many the attack was eight, twenty, and twenty-five years before. With all respect and deference to so eminent an authority I am going to contest his views.

Is it from Sir Henry's experience alone, we must immediately connect closely the two diseases. Hitherto the profession has evinced too strong a tendency to take for granted all that is written by authors, at any rate by those whom it is supposed should, by their experience and knowledge be authorities, and according to their views and assertions, to a great extent, is the profession guided, and so they jog along, regardless if a thing be right or wrong. Mr. Bryant says, "that although gonorrhœa often precedes a stricture, that at least half the cases are found in subjects who have not suffered from such a disease." If every surgeon studied and paid as much attention as our authors do to their particular subjects, we should have some reliable statistics from which to form a correct idea. To enhance our science we require to form a closer tie and brotherhood, but I am afraid that can never be. There is too much jealousy, too much striving for superiority and position. However, I am digressing. Speaking of the connection between gonorrhœa and stricture, while I retain my senses, is anyone going to make me believe that the amount of strictures treated by the profession is due to gonorrhœa. Good heavens! No! According to such a supposition, there would not be a sound urethra in the United Kingdom. Look at the frequent occurrence of gonorrhœa. There is hardly a man who has not suffered from it, comparatively speaking, or who may not contract it sometime during his life. Were it possible to take the statistics of those suffering from gonorrhœa, we should see how many escape stricture, and if gonorrhœa had been treated in a rational manner, and neglect on the part of the patient was not so common, I feel certain the two diseases would hardly have become connected. I had a patient the other day who had consulted a surgeon for his gonorrhœa in the inflammatory

stage, and the treatment was iodoform bougies! Another had caustic injections, which caused profuse bleeding and pain. Can one wonder at stricture resulting from gonorrhœa, or would it not be better to say, THE TREATMENT OF GONORRHŒA.

Yet I think I may, with the strictest truth, assert that there is no disease to which man is liable, the causes, nature, consequences, and treatment of which (theoretically, at all events) are better understood than those of Stricture of the Urethra. I believe I may with equal truth state, that there exists no disorder capable of entailing the same amount of intense mental and physical agony, and not unfrequently occasioning so much danger to life, that more often or more quickly yields to judicious and skilful treatment. Indeed, to the patient the relief afforded frequently appears magical. Thus, we constantly see patients who have for years endured in hopeless misery, all the discomforts, pain, and even danger to life which the disease in its advanced stages occasions, relieved from all their sufferings in the course of a few days, or at most a few weeks, by the skilful use of a simple catheter.

Judging from these premises, the novice in the treatment of stricture would naturally infer that, so far as the surgeon is concerned, nothing could be more simple and easy than the removal of any urethral contraction; and that when patients suffer to the extent above mentioned, it must be from their own neglect in not obtaining necessary surgical assistance. Yet, natural as such a conclusion may appear, the result of my experience compels me to declare that, in far too great a proportion of instances of aggravated stricture, the severe and prolonged sufferings which the patients have endured, have been the result not entirely of their own neglect, but have arisen from causes beyond their control. What

those causes are, and how produced, I shall endeavour to show. In the meantime, it is necessary, as a preliminary or starting point, from which to proceed to the consideration of the important questions which form the subject of the following remarks, that I first enumerate the different modes of treatment practised for the cure of Stricture of the Urethra. These modes may be conveniently divided into two classes, distinguishable as "Regular" and "Irregular."

The regular methods of treatment are :—

First—Simple temporary dilatation with bougies and catheters.

Various instruments have been invented and employed from time to time, both in this country and abroad, with a view to the more efficient dilatation of strictures of the urethra. For example, steel dilators with opening blades, dilators passed on guiding rods or small catheters, which have been previously introduced through the contracted parts. But, with all deference to the inventors, as these instruments are of no practical value, whilst some of them are most dangerous, I do not think it worth while to waste the reader's time by entering into a minute description of them, or the modes of employing them.

Secondly—Prolonged dilatation by the retention of instruments in the grasp of a stricture, for periods varying from one to six or seven days; sometimes even longer.

The following modes of treatment are those which I place in the category of "Irregular Methods:"

First—The plan of internal incision with the "Lancetted Stilette."

Secondly—By external incision, as in the operation of Perineal Section.

Thirdly—Any other operation involving the use of the knife, or forcible splitting up.

Now, it must be understood, that, after the division of the stricture or strictures has been accomplished by any of these operations, it is absolutely necessary in order to complete the patient's cure, to employ bougies or catheters, according to the method of treatment by simple or by prolonged dilatation.

Thus, then, and notwithstanding all the ingenuity displayed in the construction of different kinds of instruments, or in the revival of obsolete or the suggestion of novel operations, all our treatments are only so many modifications of, or additions to, the original and more simple treatment by DILATATION—*valuable, no doubt, in some rare cases, although a resort to them is attended by some risks and even danger to life.* Therefore, in relation to the question of the means which we possess for successfully treating strictures of the urethra, I would venture to lay down the following axiom:—namely, That the foundation of all methods of treatment, as well as all expectations of success therein, must rest to a greater or less extent on the surgeon's skilful and judicious use of bougies and catheters. And to this axiom, I would add, as the result of my experience, that, with scarcely any exception, one of the modes of treatment I have classed amongst the regular methods will be found sufficient, *per se*, to afford all the relief that can be hoped from those I have denominated as irregular. This may be effected happily without the risk of life attendant on the employment of some of the latter. In making this statement, I am prepared to be asked how I reconcile my assertion with a fact that is unfortunately but too notorious; namely, that strictures not only very often resist, or at all events seem to do so, all attempts at their cure by these means, but are aggravated thereby. The answer

to this seeming contradiction, is, that I have found, with scarcely any exception, that these seemingly intractable strictures have resulted from one or from a combination of the following causes :—

First—From a want of manipulatory practice in the use of the instruments on the part of the surgeon.

Secondly—From the improper or unnecessary use of instruments, and by the employment of unpardonable violence, when attempting to pass them through the stricture, by surgeons otherwise possessed of both skill and experience.

Thirdly—From the grossest neglect on the patient's part. It is, I fear, the two former, in the majority of instances of aggravated stricture, that are the most frequent causes of the patient's prolonged sufferings.

From results of inquiries into the real causes of the repeated failures of the ordinary methods to afford relief, it appears to me, that those gentlemen who have so strenuously devoted themselves to the revival of obsolete operations, or to the introduction of novel ones, on the ground of the general inefficiency of the ordinary means of cure, have, in their eagerness to foist their own views and practice on the profession, too readily assumed that the intractable cases they have met with, afford conclusive evidence of the inefficiency of the ordinary methods. I cannot but think that, had they discarded all preconceived theories, and extended their inquiries into the character of the previous treatment, they would have found reasons for arriving at conclusions similar to my own, as to the real reason why the disease was so intractable; whilst, had they further been content to try again the same modes of treatment which had apparently failed, I have no doubt that, through their greater practical experience, they would have met with the same success as I have

under similar circumstances. Hence they would now be prepared to join me in declaring, that, in a vast and overwhelming majority of instances of seemingly intractable strictures, one of the regular methods of treatment, *per se*, will be found adequate, if skilfully and judiciously employed, to afford all the relief that can be obtained by the severe and, to some extent, dangerous operations which are so indiscriminately recommended.

A very slight knowledge of the nature and situation of the disease, as well as of the difficulties that frequently impede the introduction of instruments down the urethra to the bladder, should convince the most superficial observer, that the success of any treatment must mainly depend, not only on the amount of practical experience possessed by the surgeon, but also on his possession of such sound judgment and temper as will prevent him making hasty and violent attempts to pass instruments through the strictures. It therefore surely does not require a moment's argument to convince the most inexperienced person, that, in a disease so entirely dependent on instrumental assistance for its proper and effectual relief, it is impossible to enter on the discussion of the merits or demerits of the ordinary modes of treatment, with any prospect of arriving at correct conclusions, if we ignorantly or wilfully refrain from inquiring how far the failures of those methods are occasioned by want of experience on the surgeon's part in many, and by want of temper and patience in a still larger number of instances, than from *any too rigid and inflexible neglect of the proposed end.*

Entertaining these views, it appears to me, that these important considerations in relation to the question of the merits of the ordinary means we possess of treating

cases of stricture of the urethra, have not been hitherto brought forward with the prominency, or urged with the force which they merit. For I may state it as an indisputable fact, that there is no malady to which man is liable, the efficient relief of which depends more on the amount of *practical experience* possessed by the surgeon, than stricture of the urethra. I say, *practical experience*, because it is not enough for the prompt and comparatively painless relief of the patient, that the surgeon in theory knows that an instrument should be passed, BUT HE MUST ALSO KNOW HOW TO PASS IT; and to do this, it is essential that he possess a sufficient amount of dexterity in the use of instruments, and this can only be acquired after much *practical experience.*

In relation to this subject, man never penned truer words than the following :—

"The operation of introducing a catheter through an impermeable stricture is, without doubt, the most difficult in the whole range of surgical operations, and demands all the science, prudence, and skill of a master. The art can only be acquired, and that gradually, by frequent practice." (*Liston's "Operative Surgery."*)

I imagine there are but few who would openly dispute the truthfulness of this deliberately expressed opinion of one of the most distinguished operating surgeons, not only of his own time, but of all ages. Nevertheless, what does our every-day experience teach us? It brings these facts to our knowledge :—

First—That persons who are totally devoid of *practical experience*, do not for a moment hesitate to take upon themselves the treatment of such cases, with no other foundation on which to justify their so doing, than the possession of a certain amount of theoretical knowledge as to the pathology and treatment of the complaint.

Persons of this class constantly fall into the error of treating patients for the removal of imaginary strictures, whilst not unfrequently their bungling operations cause so much irritation in the urethra as to give rise to the formation of a real one, and this, too, sometimes complicated with a false passage! What intractable strictures often arise in this manner, and how inefficient must all treatment appear in such hands!

Secondly—Daily experience affords equally deplorable as well as infinitely less excusable instances of the sad effects of hurried and violent treatment, adopted by men whose skill and experience it is impossible to doubt. There are many circumstances that may excuse the former for any errors they may commit, but nothing can justify the latter.

If this be, as my experience leads me to believe, a correct representation of what often happens to patients labouring under stricture and other diseases of the urethra, will not every one admit that the possibility, not to say probability, of these occurrences having befallen them, forms a very important link in the chain of evidence which should determine us in forming our conclusions as to the general efficacy of the ordinary modes of treatment? If it cannot be proved, in a majority of instances of obstinate and apparently intractable strictures, that they have first assumed those characteristics, after having been exposed to treatment by violent or inexperienced hands, and have nevertheless subsequently yielded to precisely the same plan of treatment, when carried out by more experienced or more gentle persons. It can be proved that persons have been repeatedly pronounced to be strictured, who in reality were not so, and where the error has not been detected at once, have only had well-defined symptoms of stricture, after a more or less prolonged course

of so-called treatment with bougies. Is it not, I ask, if these things can be proved, a waste of time to enter into discussions as to the efficiency of our modes of treatment, and at the same time to suppress or avoid the consideration of these important elements in their success or failure? Is it not, also, an unpardonable neglect, as well as a gross perversion of the results of our experience, to disregard all these considerations, and denounce plans of treatment as generally inefficient, which are in truth only so from the inexperience or the imprudence of those who profess to carry them out? Should we not be nearer the truth, if we were to state that patients often fail in obtaining the desired relief, notwithstanding the existence of efficient means of affording it, through the inexperience or rashness of the surgeon, and that it also occasionally happens that they even owe the disease under which they labour to the same cause? I shall answer the question in the affirmative.

CHAPTER II.

General Observations on the Causes of Stricture of the Urethra.

A STRICTURE consists in a diminution or contraction in the calibre of a portion of the urethra, and may be divided into two kinds, temporary or spasmodic, permanent or organic.

The formation of stricture of the urethra is invariably preceded by one or more attacks of inflammation in that canal, presenting a more or less acute character. Various causes—some, physical and internal; others, mechanical and external—are capable of exciting in the urethra such an attack or series of attacks of inflammation, as may lay the foundation of morbid contractions therein. As an example of the first, we may mention instances in which the urethral inflammation arises from the existence of some disease in other parts of the genito-urinary economy; and of the second, in which it results from external violence, as from blows inflicted on the perineum.

As above suggested, the origin of urethral inflammatory action may, in certain cases, be ascribed to the previous existence of some disorder in other portions of the genito-urinary system; such as the prostate gland, the bladder, or the kidneys. Moreover, it is occasionally

attributable to morbid affections of the neighbouring parts, as the rectum and anus. At all events, attacks of inflammation in the urethra, followed by the formation of stricture, do undoubtedly sometimes arise solely from one or more of these causes. Gonorrhœa may be regarded as the most universal cause of attacks of inflammation in the urethra, and in cases where stricture follows, it is due, in my opinion, to neglect on the part of the patient, or from improper treatment.

The application of the lunar caustic, diluted, or undiluted, to the surface of the urethra, for the purpose of removing morbid discharges of that canal, and the *unnecessary* or *unskilful* introduction of bougies, are often, especially the latter, exciting causes of such a degree of inflammatory irritation as to produce stricture. Amongst the more remote causes, are excesses in drinking whilst the patient is labouring under symptoms of gonorrhœa; too great an indulgence in sexual intercourse, or an unnatural prolonging of the act by retarding the seminal emission; * and lastly, any cause, capable of exciting an inflammatory action or irritation of the urethra, may occasion the formation of stricture therein, one exciting cause generally omitted by authors which I deem worthy of attention, and that is self abuse (masturbation), my experience of which endorses that of Mr. S. W. Gross, of Philadelphia.

He states :—

"With regard to masturbators, who either never had sexual intercourse, or had never contracted gonorrhœa,

* The excitement in the genito-urinary organs, preceding and accompanying the act of coition, and the powerful spasmodic action, that occurs on its completion by the emission of the semen, must evidently have a strong tendency to aggravate any existing contraction, or increase any disposition thereto.

I have made some notes that are interesting and practically important." He finds one in every three has an elongated prepuce, (see page 125) one in every five an inflamed meatus, one in every two and a-half an exquisitely sensitive urethra, that the same proportion suffer from prostatic or abnormal seminal discharges. He has endeavoured to show that confirmed masturbation is just as sure to result in urethritis and the formation of stricture as is gleet.

In enumerating above the exciting causes of inflammation and stricture, I cursorily alluded to the unnecessary or unskilful use of instruments as one. This being a subject of too much importance to be thus briefly passed over, I shall therefore now revert to it.

It has often been a question with me, whether the unnecessary, or unskilful employment of urethral instruments is not a more frequent cause of stricture, than any of the others above enumerated. At any rate, I have often thought, whilst listening to a patient's account of the origin, symptoms, and progress of his disease, that I could trace, step by step as it were, the conversion of a case of irritable urethra into one of complicated stricture.

In confirmation of the foregoing remark, I shall state here a case in point. A patient, upon consulting me, related his case somewhat in the following terms:—

"About two years ago, I contracted a gonorrhœa, which degenerated into an obstinate gleet. This resisting all the ordinary means of cure, the medical gentleman, who was attending me, was led to believe, notwithstanding that I made water with perfect freedom, that the discharge was the effect of stricture of the urethra. In accordance with this opinion, he examined my urethra with a bougie; and, in consequence of *experiencing some little difficulty* in passing it into the

bladder, he said, 'You have a slight stricture, and must have bougies passed regularly for a few weeks.' This course of treatment was forthwith commenced, and continued for some time, without any perceptible difference in the symptoms. But one day he had greater difficulty in passing the bougie, and, upon his using force to make it advance, something appeared to give way, and the instrument then suddenly passed onwards with a *jumping* sensation. I suffered much pain; and, upon the bougie being withdrawn, there was considerable bleeding from the urethra, which, although not so profuse as upon the immediate withdrawal of the instrument, continued for some hours. The first time I voided urine, after this operation, I had great scalding; and the first, as also the last, few drops of water were tinged with blood. For some days after this operation there was much soreness and irritation in the urethra, especially on passing water.

"When these symptoms had nearly disappeared, the bougie was again introduced; and immediately on its reaching the part, where it had stopped at the last attempt, I experienced so much pain, that the instrument (after a slight attempt to pass it) was withdrawn. A few drops of blood followed; and the pain, with other symptoms of irritation, returned. Before these had entirely subsided, renewed attempts to pass the bougie were made at intervals. At length the pain in micturition, and the irritation of the urethra, assumed a chronic character; and then, not half so large a bougie could be passed as that which had been introduced at the first attempt. Finally (disgusted at these results), I resolved to discontinue all treatment, in the hope that the urethra would regain its natural tone when left to itself, But, although the more acute symptoms, induced by the operations, were lessened on their discon-

tinuance, I still found that there was always more or less irritation of the urethra, and that the slightest imprudence or excess increased it. Well marked symptoms of stricture now rapidly developed themselves; and, dreading to incur further sufferings, I refrained from seeking assistance."

When we examine cases of similar origin to the preceding, we generally find the stricture to be of a most severe character. Not only are the mucous and submucous tissues of the urethra thickened, but the cells of the *corpus spongiosum* are filled and indurated by effused lymph. Indeed, this is almost sure to follow the improper use of instruments, no matter whether stricture originally existed or not. In my inquiries into the history of cases which come under my notice I invariably find, that where extensive indurations exist along the course of the urethra, they made their first appearance, after unsuccessful and violent attempts to pass instruments. I have further remarked that, in cases of stricture which have been left to themselves, these enlargements rarely occur, although the stricture may have been of long standing and considerable extent. For example:—A patient, who consulted me quite recently, informed me that, though he had for many years laboured under symptoms of stricture, he had, notwithstanding, refrained from seeking advice. But, at length, the difficulty in voiding his urine became so great as to compel him to apply to a surgeon, who tried in vain to overcome the stricture. As the operations were continued, the patient experienced great pain, and there gradually appeared a swelling and induration along the course of the urethra. At the time of my seeing him, a firm and almost cartilaginous induration was formed there, extending from the anterior part of the scrotum forwards about one inch along the course of the urethra,

and, from the account he gave, it was perfectly evident that this chronic enlargement had been solely produced by the injudicious use of bougies, as it had made its appearance gradually from his undergoing treatment. The patient, I must add, was much to blame, for he had visited and consulted several surgeons in London who were well qualified to advise him, but like many stricture-patients he roamed from one to another surgeon, each having his own method, and practising it upon this unfortunate gentleman.

In other instances in which these errors are committed it is the patient who first fancies he has a stricture. The following is an account rendered to me by a patient. He had some time previous to his applying to a surgeon for the cure of his (imaginary) stricture, contracted a gonorrhœa, of which, however, he was cured. But the treatment was not satisfactory to himself. He wished to express his opinion to me that in his idea the gonorrhœa was not so much the cause, as the treatment. Some time afterwards, observing a *slight twist* in the urine as it was expelled from the urethra, and, occasionally, a sensation of heat at the time of voiding the urine, with an itching or titillation in the canal for a few moments afterwards, especially about the extremity of the penis, he became alarmed, and sought the advice of a surgeon, stating that he feared he had a stricture.

The surgeon to whom he applied was, perhaps, not much in the habit of passing instruments into the bladder, and, consequently, found some slight difficulty in doing so. The moment this occurred, the case was pronounced to be one of stricture, and the results were too often similar to those already stated. The knowledge that such errors are committed, should make all persons interested therein exceedingly cautious.

Ignorance of the urethra, its diseases, their symptoms and treatment, is almost daily evinced by many pronouncing a stricture of that canal to exist, which has, in truth, no existence, save in their own imaginations; resulting from a want of knowledge on their part to enable them to avoid what may be termed the natural obstructions to the passage of an instrument along the urinary conduit; rashness—unpardonable rashness—as shown by their thrusting their murderous instruments (I use the term advisedly) through all impediments, no matter whether they are the result of disease or of their own unskilfulness.

These I feel are bold assertions, I confess, but I feel assured that that portion of the profession whose experience best qualifies them to form a judgment on this point will, if not avowedly, at least tacitly, acknowledge their truth.

How derogatory, for instance, must a surgeon appear in the estimation of his patient, when the latter, after having been bougied for some time for the cure of a stricture, as he is told, learns at length, on consulting another surgeon, that no such disease exists; and finds by the ease with which a full-sized instrument is passed, that the only obstacle that really existed was that created by ignorance! I have hitherto merely looked at this question as regards its effects on a class, namely, the medical profession; but the subject, affecting as it does the public weal, rests on a much broader foundation, and justly claims to be viewed in a more extended light; for whilst on the one hand it relates only to the pockets and reputation of the few, on the other hand it embraces the health; nay, the lives, of the many. I crave my readers' indulgence for the following case:—

Mr. B———, a barrister, called upon me late one afternoon this last December, stating that

he had for the past year, after an attack of gonorrhœa, been suffering from a stricture which he thought was getting worse, and partially due to his own fault in not undergoing proper treatment for it. He had visited one or two surgeons, but somehow not feeling satisfied with their treatment, had not troubled them again. (I may add the last he visited had even the audacity to propose that the patient should undergo some cutting operation.) After listening to this gentleman's account I desired him to permit me to pass a bougie in order to ascertain the seat of stricture. He accordingly, without the slightest objection, consented to the operation. I had no sooner withdrawn my instrument, No. 14, from its case than he raised a decided objection to the passing of that one. However, to cut a very long story short, he acquiesced, and I passed it into the bladder without feeling one point of obstruction. My patient was satisfied he had no stricture. Still he evinced such an amount of surprise that I requested him to allow me to pass it again, assuring him he would feel as before no pain. This time I passed a very large soft gum catheter, it slid into his bladder easier even than the former, and I allowed urine to flow and emptied his bladder. This convinced him. The first I passed was a solid silver instrument.

What can we imagine more distressing than that a patient labouring under some slight irritation of the urethra, which induces him to seek surgical aid, to be told that the symptoms he complains of arise from stricture, when in truth no such disease exists in his case? and further, that in consequence of his supposed disease he is tortured by a course of operations with the bougie; operations which under any circumstances are painful enough, but which, performed by such hands,

are dreadful indeed. Fortunate may that patient deem himself who, when thus situated, escapes with only the temporary pain arising from the operations. Many there are who have not so fortunately escaped. Some of these unfortunates have found that, instead of their imaginary strictures being removed, real ones have been produced.

Impressed with this conviction, I do not hesitate to declare, after witnessing innumerable cases of strictures, some real, others imaginary, and inquiring into their first symptoms and treatment, that a very considerable number of such cases have positively been caused by a want of knowledge on the part of those who have first been consulted. Many more have been aggravated if not caused by the improper and unskilful use of the bougie; an instrument which, if it has in the hands of some cured stricture, has also, beyond doubt, in the hands of others produced that disorder.

CHAPTER III.

ON THE USE AND ABUSE OF INSTRUMENTS.

THE young medical man, his studies just completed, is visiting a surgical instrument-maker, with the view of providing himself with urethral instruments. Can he be otherwise than completely perplexed, when he sees the various bougies and catheters, both solid and flexible, which are presented to his view? This solid one, with very little curve, he is told, is that used by Mr.———, the eminent specialist; whilst another, with a curve more than equal to half a circle, he is informed, is used by Mr.———, an equally eminent man. When, in addition, he beholds the various instruments, invented or revived by ingenious and bold experimentalists in England and abroad, for incising the indurated portions of the urethra; and, lastly, the dangerous dilator, revived by a surgeon some time since. To say that he would be perplexed, would indeed, only faintly express his state of feeling!

To a young surgeon who has not availed himself of the opportunities, always more or less presented at our metropolitan hospitals, of acquiring a practical knowledge of the treatment of strictures, and whose knowledge is confined to his mere gleanings from lectures, or books. nothing, I imagine, can be more perplexing than to have

to make a selection from the miscellaneous heap placed before him. If he seek to resolve his doubts by the perusal of the numerous works published on the treatment of these diseases, how conflicting and contradictory will he find them! And could he see the practice of some of their authors, he would, I have reason to think, find a vast discrepancy between it and their published theories.

It is a strange and startling fact, and one imperatively demanding, in my opinion, the serious attention of the profession, that, whilst there is no disease, the pathology of which is more clearly understood, there is scarcely one for which, from time to time, more diversified modes of treatment have been proposed. Notwithstanding, too, this complete knowledge, and these numerous methods of treatment, it is painful to think that there is hardly any disorder that so often baffles the surgeon, and subjects the patient to such protracted and severe suffering. If, as it is said, "the knowledge of a disease is half the cure," it is not merely a reproach to the profession, that so many patients for years suffer under all the agonising symptoms and consequences of stricture; but a tolerably convincing proof is thereby obtained that either in the methods of cure recommended, or in the way in which they are carried out, there is some great deficiency. For my own part, I am fully of opinion that, with the exception of the dangerous incising and forcibly splitting modes, the simple methods of cure recommended, if *rationally* carried out with a due regard to the symptoms and specialities of each case, will always be found adequate to the end proposed, however severe the disease may be.

I may be asked, how it happens that, with this alleged complete knowledge of efficient means of cure, so many strictures remain not only uncured, but

frequently assume, under these asserted sufficient means of cure, a more obstinate and alarming character? I am forced in vindication of my own opinion, to prefer very grave charges of error against a vast number of the members of the profession.

I shall hope that, should these remarks be perused by the profession, they may be the means of inducing them to avoid the malpractices I condemn, and to substitute for them those more rational modes of treatment, which effect a cure with comparatively little suffering to the patient, and must redound to their own credit for skill and humanity.

I shall now, without further preface or apology, proceed to point out the different causes which appear to me to give rise to such lamentably *irrational* conduct on the part of some surgeons, in their treatment of patients labouring under stricture. I propose to carry our inquiries back to that period of the surgeon's life when he is, as it is termed, "walking the hospitals." At this time, being young, inexperienced, and enthusiastic, he is naturally attracted by the brilliancy and éclât ever attendant on the performance of what are termed the "capital operations." His attention is also more readily directed to the numerous, and what (in the eyes of the uninformed or casual observer) will appear the more important diseases, which everywhere meet his view.

Thus it too often happens, that the study of the nature, and especially the treatment, of strictures of the urethra, if not altogether neglected, is but slightly effected. This, in the young student, is (as I have already said) natural, and, in some degree, excusable; particularly, if those who are his instructors, and ought to be his guides, fail to impress on him the deep importance and necessity of his making himself, not merely

conversant with the anatomy of the urethra, and theoretically with the pathology of its diseases, but, *practically,* with the performance of such operations as they require for their cure.

Now, in most of the lectures I have heard or read, as also in the more elaborate and systematic works on strictures, it appears to me that the serious difficulties and complications, against which we have so frequently to contend, are not, with sufficient perspicuity and force, brought under the student's notice.

Most lecturers and writers on this subject, after giving very ample and correct details of the causes, symptoms, progress, and consequences of stricture, seem to me afterwards to express themselves on the treatment they recommend (that by dilatation in general) in such a manner as must have the effect of creating, in the minds of their hearers or readers, a notion that the cure of strictures is absurdly simple and easy. This naturally begets carelessness in the pupil, who thus falls into what may properly be termed the mere routine practice of dilatation by bougies. This practice, although very well adapted to the cure of *slight* cases, will too often, in the more grave ones, be found totally inadequate. Again, they do not sufficiently warn their pupils or readers, against using even the slightest force, when attempting to introduce their instruments. It is true that they, in general terms, give some caution on this head; but it is often marred by some preceding or subsequent directions. For example, they advise, when an instrument does not pass through the stricture, that it should be "firmly pressed against the obstruction for some minutes." This pressure they say, should be "*as much as could be made without lacerating the urethra, or causing any great pain.*" All this sounds very well in theory; but, upon attempting to put it

into practice, the operator quickly finds, that it is exceedingly difficult to measure the amount of *firm pressure* that the urethra will bear without being lacerated, or the comparative degree of pain the patient experiences from "firm pressure" against the stricture, and from laceration of the urethra.

That surgeons, having had great experience, may be able to form a correct judgment of the amount of pressure they can with safety employ, and, at the same time, keep the point of their instrument in the right direction, is perfectly possible. Nevertheless, we have the testimony of daily experience, that the greatest skill, even when conjoined with considerable experience, is not always sufficient to prevent the operator from making false passages, or, even when this error is not committed, from inflicting great pain, and causing profuse hæmorrhage. I cannot, therefore, but think, whatever they may choose to do in private, that they should take especial care not to afford, either by their writings, or by their public performances at the hospitals, the slightest grounds to the less experienced and skilful for being guilty of a course of treatment that is often attended with such serious consequences.

As a general principle, it would appear to me much more judicious, were these lecturers or writers to lay it down as an absolute rule, that the instrument should only be lightly pressed against the stricture, or so gently introduced into it, as to avoid all painful pressure or violence.

But I must notice here another evil, resulting from the professional man in his early career neglecting to acquire not merely a knowledge of the nature of strictures, but that practical experience which is so essentially necessary to the proper manipulation and successful introduction of the instruments employed in their cure.

Thus, when called upon to make an examination of the urethra with an instrument, in order to determine the existence of a stricture, he is led by his want of this practical experience into constant errors; pronouncing stricture to exist when in reality there is none; and thus subjecting his patients to a course of operations as injurious as they are unnecessary. These mistakes very commonly occur under circumstances somewhat like the following:—

A patient, after an attack of gonorrhœa, experiences slight irritation and heat, not only when passing water, but for some minutes afterwards. He also imagines he does not expel his urine as freely as he ought. This supposition, and the preceding symptoms, alarm him; and he fancies he either has stricture, or that one is forming. Under this false impression, he applies to a surgeon, belonging to this unfortunate and too numerous category, telling him that "he fears he has a stricture." The surgeon, on this declaration, suggests the propriety of an examination with a bougie, in order to determine the question. The patient consents, at the same time earnestly requests that "a large instrument" may not be employed, as he is sure it will not pass. To this request the surgeon readily accedes; and thus, instead of examining the urethra with a full-sized bougie (which, if there be no stricture, would pass with comparative ease) ,one, not half the size of its natural diameter, is employed. Should it further happen, as I have just suggested, that the surgeon, from want of practice in this branch of surgery, is not very expert in the manipulation of his instrument, the bougie will, in all probability, hitch at some one of the "natural obstructions" (as they were very properly termed by the late Sir Charles Bell), existing in the urinary canal. The passage of the instrument being thus impeded, the patient is

immediately assured he has a stricture, and must submit to a course of bougies.

In many instances, it has happened, that the point of the instrument has again and again been poked against one of the natural obstructions, until the urethra has been at that point lacerated. Moreover, by the pressure being prolonged in the same direction, a false passage has been made. But, even should the latter calamity not occur, the least mischief, that can result from the repeated pressure of the point of the bougie against one spot of the canal, is more or less irritation and inflammation, succeeded by an effusion and organisation of lymph, thereby causing induration and stricture. Thus we see that the treatment erroneously adopted, gives rise to the very disease it was intended to cure.

The foregoing is a very brief, but accurate outline of the ill consequences, that are almost certain to result from a want of *practical* knowledge on the part of the surgeon; and the consequent erroneous diagnosis it leads him to form. Serious as these consequences are, even in the case just stated, they by no means exceed the amount of suffering created by the use, or rather abuse, of urethral instruments, in cases where there was no doubt as to the existence of stricture.

In the course of my inquiries into the history of the origin and progress of many cases of stricture that have come under my care, it often appeared to me, that no inconsiderable portion of the severe and prolonged sufferings, endured by patients, had arisen from one of two causes, viz.:—either from the treatment, adopted in the earlier stage of the disease, having been too mechanical;—or, at a later period, from the employment of force to overcome the morbid contractions. With respect to the former, I shall now remark, that when the

patient's attention is called to the first, or premonitory, symptoms of approaching urinary obstruction, they are rarely produced by any alteration in the structure of the urethra, but are mostly the result of some lurking irritation, or chronic inflammation. Therefore, instead of introducing bougies every, or every other, day (as is too generally the case), the surgeon should prescribe mild aperients, emollient drinks, frequent warm fomentations of the perineum, spare diet, a total abstinence from all wine, beer, or spirits, as also from all sexual intercourse, and content himself with the introduction of the bougie once a-week. Thus the irritation, that always, more or less, follows the introduction of instruments, would be allowed to subside before another operation; and the probability is, that the patient would be relieved, with the most perfect ease, from his incipient symptoms of stricture, and altogether escape the formation of a permanent contraction.

How diverse is the treatment, above indicated, from that generally adopted! Judging from what I daily see and hear, it would appear to me, that the idea had never entered the head of either the surgeon, or the patient, that anything more was necessary than to pass instruments. They seem also to think, that the oftener the instruments are passed, the quicker will be the cure. The disease being local, they deem the only treatment required, is the mechanical dilatation of the part. Thus bougies are introduced daily, or on alternate days; whilst, at the same time, the patient is taught to pay little or no attention to the state of his general health, his diet, the character, healthy or otherwise, of his urine, exercise, &c., &c.; and consequently he eats, drinks, walks, indulges in sexual intercourse, and other exciting habits, without the slightest restraint; as though these were matters

of no importance whatever; whereas they are really of the very utmost moment. It must, therefore, excite no astonishment that, under such a course of treatment, the disease is aggravated rather than relieved; as the continual passing of bougies keeps up a perpetual irritation and excitement throughout the whole course of the urethra, and at the same time aggravates such as previously existed at only one particular point.

If I appear to dwell too much upon these points, I am content to run the risk of being thought tedious, rather than fail in my earnest desire to impress, as emphatically as I can, on the profession generally, the immediate, as well as remote, evils, ever attendant on the employment of any kind of force in passing instruments; as also the great importance of their acquiring the most minute practical knowledge of this interesting branch of surgery; and, finally, of their reflecting deeply on the immediate, as well as remote evils, ever attendant on the employment of any kind of force in passing instruments. I shall thus prepare them (if I may be allowed to say so), for feeling a proper horror and detestation of this most rude, irrational, and inhuman mode of treatment. The reader may be assured that, whilst there are few cases, very few indeed, however severe and of long standing, that will not yield ultimately to the combined effects of patience, care, and skill; there is not one, that will not be immediately and seriously aggravated by violence;—it matters not what amount of skill the surgeon possesses who employs it. It may be regarded as an axiom in the practice of this branch of surgery, that the moment recourse is had to force to overcome the obstruction, the most ignorant and the most skilful are pretty nearly on a perfect level, as far as the successful issue of the case is involved. Should even the knowledge and skill of the operator enable him

to pass the instrument, through the obstruction into the bladder, along the right course; yet the laceration, the consequent pain, the hæmorrhage, that must result from the violent forcing of the contracted parts of the urethra, cause the patient to pay much too dearly for the success of the operation. In many instances, the severe injury, inflicted on the urethra, gives rise to the most acute inflammation and irritation, which render it imperative to discontinue all operations for days, and sometimes weeks. In the meantime coagulable lymph is deposited from, and round, the inflamed and lacerated parts, and quickly becomes organised; thus rapidly forming an obstruction, more dense than the original stricture. Therefore the patient not merely derives no benefit from these clumsy proceedings; on the contrary, he finds, after having submitted in the first instance to great pain, and, for some time afterwards, to an aggravation of all his distressing symptoms, that he is not merely no better for the treatment and sufferings he has undergone, but in every respect much worse. (See pages 114 and 115.)

Entertaining such sentiments, I cannot too often, or too strongly, impress on teachers and writers, the paramount duty of discountenancing the employment of any force in the treatment of morbid contractions of the urethra. But they should not confine themselves to mere precept; they should, practically, enforce it by abstaining from those mistaken deeds of violence and blood they too often enact at our hospitals.

Having made these observations on the important duties and serious responsibility of both teachers and pupils, as also on the evils resulting from the diseases of the urethra, and on their practical treatment not being made the subject of due study, I shall notice the mischiefs, not less serious, inflicted on patients labouring

under strictures, both by their own inconsiderateness, and the irrational conduct of surgeons.

With respect to patients, it often happens that, although labouring under most severe strictures (so bad indeed, as to allow them only to void their urine in an exceedingly fine stream), yet they do not materially suffer in their general health. At all events, they do not suffer to such an extent as to confine them to the house, or altogether prevent the pursuit of their usual avocations. At the same time, most patients of this class are exceedingly reluctant to let even their most intimate acquaintances know that they are suffering from stricture. Indeed, this desire to conceal their state is often carried so far, as to induce them to keep it a secret from their own families. From this cause, it frequently occurs that consequences arise, as unpleasant to the surgeon, as they are disastrous to the patient. For instance, a patient labours under stricture so severe, and of so long standing, as to render the canal almost impervious to instruments. In this situation, and under the influence of the feelings I have just mentioned, he resolves to seek the aid of some surgeon, whom he only knows from his name being connected with some public hospital, or some other equally accidental coincidence. To this end, he waits upon the surgeon at his private residence, at the usual hours of reception, where, according to common usage, he finds collected some half-dozen or more patients, who are hurried in and out in their respective turns. At length his own turn arrives; his case is briefly stated; instantaneously his back is fixed against the wall (the wise surgeon places his patient on a couch), and the surgeon at once proceeds to explore his urethra with a bougie. The existence of a severe stricture is readily ascertained; and after

some attempts, occupying a few minutes, have been made in vain to pass the instrument beyond the stricture, the patient is informed that he must submit to a regular course of operations. Thereupon he is dismissed, with injunctions to repeat his visit in two or three days. He accordingly keeps the appointment; again an instrument is passed down to the stricture; *pressure* is made, whereupon the instrument partially enters the stricture, in which it is felt to be firmly fixed and grasped.

The surgeon, having so far accomplished his object, should, in my opinion, desist for a time from any further attempt to advance the instrument. He should content himself with either gently holding it in the position in which he had placed it, or with bidding the patient to do so, for some few minutes, should no pain be occasioned by its retention. The instrument should then be gently withdrawn, and, if the treatment resolved upon be that of simple dilatation, the patient should be told to call again in a few days. This would be the *rational*, though, I much fear, it is far from being the *usual* mode of procedure.

But to return to where I left off. The instrument, having been passed down to the stricture, and having partially entered it, is there spasmodically grasped. These circumstances, instead of being regarded as conclusive reasons for discontinuing, for the present, all further attempts, are generally held as additional inducements for continuing them, and (fatal error!) with superadded force. Such attempts occupy but a few minutes, and no time being allowed for the spasms to exhaust themselves, they are, consequently, in most cases unsuccessful and also exceedingly painful. As other patients are waiting, the surgeon can devote no further time to this case, and the patient is therefore

dismissed, with an injunction to renew his visit in a few days. Thus weeks frequently elapse, during which these brief attempts to overcome the stricture are renewed at intervals of two or three days, but without success; and should the surgeon have abstained from resorting to force, no ill consequences will probably happen to the patient beyond the loss of his time.

But this careful avoidance of force, is, I fear, a rare exception to the general method. Thus, after several visits have been made to the surgeon, and, on his part, as many fruitless attempts to overcome the obstruction, he is annoyed at his want of success, and, at the same time knowing that others are waiting to see him, he determines when the instrument is again fixed in the grasp of the stricture to carry his firm pressure a *little farther*, and thus endeavour by a species of *coup de main* to overcome the obstruction. The moment this determination is acted upon, the patient experiences the most excruciating pain; he feels the point of the instrument pressing against the stricture, and simultaneously increased spasmodic grasping ensues. At the same instant (to use his own expression) "something appeared to give way, and the instrument, with a jump, passed onward into the bladder." Should it be a catheter that is used, as the water flows through it, small clots of blood are observed to escape, and the urine itself is more or less tinged. As soon as the bladder is emptied, the instrument is withdrawn, and, as it passes over the strictured portion of the canal, increased pain is experienced, accompanied by a "tearing sensation," whilst, after it has been completely withdrawn, more or less bleeding ensues. The patient is now congratulated on the successful introduction of the instrument, and is told that the bleeding resulting from the operation is of no consequence. This assurance

conjoined with the success which has attended the operation, in a great measure reconciles him to the sufferings he has undergone. He is then dismissed with the usual directions as to his next visit. On his way home, he suffers more or less pain, and is conscious that a discharge of some kind is taking place from the urethra. Upon his arrival he immediately proceeds to examine his linen, when he experiences no little alarm at finding it covered with blood, and that a discharge of that fluid from the urethra still continues. But this is not all; for when he next has occasion to pass water, the moment the urine passes over the strictured portion of the urethra to which force has been employed, he experiences so acute and agonising a pain as no language can adequately describe. The pain, to use his own words, "thrills through him," and instantaneously a shivering pervades his whole frame; his teeth chatter; his limbs tremble, and severe rigors ensue. Thus he offers the most complete picture of human misery! In some instances, however, the attack of rigors is less sudden. Should such be the case, the patient, instead of being at once attacked with a fit of shivering, after he has ceased to pass water, merely experiences what he will describe as a "cold, creeping sensation." Gradually this feeling however increases, and is accompanied by great depression of vital power and nervous energy, succeeded by violent fits of shivering. But, even when no attacks of rigors supervene, still the patient invariably suffers increased pain and difficulty in passing water; and, in some instances, a total and alarming retention of urine occurs. However, under any circumstances, the effect of the violence used is mostly to cause a total cessation of all further attempts for some days. Upon the operations being renewed, the surgeon, on attempting to pass an instrument through

the stricture, finds the impediment as firm as ever; and he has now to contend against such a degree of INCREASED MORBID SENSIBILITY, at the strictured portion of the urethra, as to inflict, upon the slightest pressure, intolerable pain on the patient; and, lastly, when the instrument is withdrawn, although the greatest possible gentleness has been used, a slight bleeding takes place. Again and again are similar attempts made, with like results; till, at last, the surgeon, growing once more impatient, and regardless of the previous dire results of his rashness, again forcibly thrusts his instrument through the stricture, producing anew evils similar to those already recounted; or he becomes so alarmed or embarrassed, as not to have the courage to make even that amount of pressure which, under different circumstances, would not merely be justifiable, but proper. The unavoidable consequence is, that both the surgeon and his patient are so disappointed and dissatisfied, that the one is determined to abandon all treatment, whilst the other scarcely regrets the loss of his troublesome patient.

Let us, however, take the most favourable view of a case of this kind, and suppose the excitement and irritation resulting from the force employed, to have subsided, and that, at the next operation, an instrument has been introduced into the bladder; yet, notwithstanding this success, it almost invariably occurs, that the stricture, from this time, presents indications of increased morbid sensibility to the pressure of the instrument, so as to render the necessary operations exceedingly painful. At the same time each successive operation causes more or less bleeding; and these symptoms continue, notwithstanding that the strictured portion of the urethra is at last so completely dilated, as to admit of the introduction of a full-sized instrument. Thus, although the full-

sized instrument passes, there yet remains increased sensibility of the part, together with an aptness to bleed upon the slightest pressure being made. No sooner, too, is the employment of instruments discontinued, than the contraction rapidly recurs. The reason of this disposition in the parts to re-contract may be accounted for, as already explained, by the aptness of strictures, arising from mechanical injury, to relapse, in consequence of the cicatrix formed by the healing of the ruptured urethra. The mechanical force of the bougie may equally, with that arising from external violence, rupture the membranes forming the urinary canal, thus occasioning cicatrisation, and the probable re-formation of stricture.

In this supposed instance, we have seen a certain amount of brief success result from the employment of force. But, in the far greater number of cases, not only is this questionable success wanting, but the patient's life is placed in imminent danger.

There are other instances of irrational conduct, both as regards the patient and the surgeon; and of these I know none more reprehensible than that of patients, labouring under severe strictures, accompanied, as they frequently are, by irritability and spasm, going and submitting to a five minutes attempt to pass instruments, and afterwards returning home in all kinds of weather. It is to this attempt to do in a few minutes, and, as it were, by a species of *coup de main*, what time, patience, and care will alone, in a great majority of cases, enable us to accomplish, that is to be attributed a vast proportion of the dreadful cases of stricture, complicated with false passages, fistulæ, &c., &c., we sometimes meet with. It may be urged, as some justification on the part of these surgeons, that their engagements are so numerous, that it is impossible for them, con-

sistently, to give up hours, or even half hours, to individual patients. With respect to such a plea, it appears to me, that if they cannot devote the full time such cases require, it would be more humane, and more in accordance with sound practice, to tell their patients so at once, rather than to leave them to find it out themselves by bitter experience.

In concluding these observations, which have been made as an earnest protest against the too prevalent, and, in my opinion, mischievous routine practice of the present day, I trust I may venture without presumption to hope that the method I advocate may take the place of that I condemn.

CHAPTER IV.

ON CATHETERISM.*

I WILL ask my readers not to be hypercritical as to the drawings and diagrams. They have all been executed by my own hand, and are but poor attempts at draughtmanship.

In the preceding observations I have discharged the graceless and invidious office of a fault-finder. I now arrive at a more pleasing portion of my task; namely, the endeavour to suggest some means and precautions, that I trust may, to some extent, prevent the young surgeon from falling into the grave errors which I have pointed out, and upon which I have animadverted.

The first point that claims our attention is, how the grave error may best be avoided of treating patients for stricture, where no stricture exists.

It is necessary, in reference to this question, that I recall to the reader's notice certain points in relation to the urethra, and the natural obstructions which it offers to the introduction of instruments into the bladder, in

* The instruments mentioned in this chapter have been manufactured by Messrs. Walters and Co., 29 Moorgate Street, City, from whom they can be obtained.

order that he may clearly understand how such an error may arise, and how it may be avoided.

The surgeon when called upon to explore the urethra with a bougie, to determine on the existence or non-existence of a stricture of that canal, should bear in mind that the orifice of the urethra is the narrowest point of the whole passage, and that consequently, any sized instrument that enters it, should pass to the bladder if no stricture exist. He must likewise remember, that an instrument which fully occupies the urethra, without, however, painfully distending it, will more readily avoid the natural obstructions, to which I shall presently refer, and be less liable than a smaller one to be entangled by the folds of the urethra, or caught by the lacunæ.

I would now remind the reader that there are three points in the urethra, at which the surgeon is very liable to meet with difficulty and obstruction in the introduction of instruments, unless he has had some practice in their use. The first of these is situated at the sinus or bulb of the urethra; the second is at the junction of the membranous with the prostatic portion of the canal; and the third is just at the termination of the urethra at its entrance into the bladder. If the reader will pass a silver catheter, and then slowly withdraw it, keeping its point at the same time pressed down on the inferior surface of the urinary canal, he may distinctly feel the instrument successively drop (as it were), as it is withdrawn through each of these parts, and this more especially at the last. By practising this manœuvre a few times, the surgeon will readily acquire an exact knowledge of the situation of these "natural obstructions," and the best mode of avoiding them; for he cannot fail to remark that all the projections forming these impediments are situated on the inferior surface of the canal;

and, therefore, all that is necessary in order to avoid them is to keep the point of his instrument towards the upper surface. However, when an instrument is stopped by any of the natural obstructions, before the direction of its point is changed, it should be slightly withdrawn, and urged forward on a higher level, so as to make the point by pressing more towards the upper part of the canal, avoid the obstructions on the lower. It is true, that by merely raising the handle of the instrument, without withdrawing it, the point of the instrument will be raised, and the difficulty thus sometimes overcome, in which case the instrument will pass onwards with a kind of jump or bound over the obstruction. But there is always more or less risk of lacerating the urethra when the instrument is made to pass in this fashion. Besides, I have frequently known this jump of the instrument to be attributed to its passage over an organic stricture, and thus both the surgeon and patient may be led into the error of believing in the existence of a stricture which in reality does not exist. Indeed, as the same phenomenon occurs when an instrument is passed over the other two natural obstructions, if the same precautions and rules are not adopted, I have known each of these three natural obstructions converted, in the minds of both the operator and patient into so many strictures.

The young surgeon who steadily keeps these points fixed in his mind as he passes instruments, and at the same time avoids all violence, will, after a little experience, find himself such a master of his instrument, as will render it impossible for him to fall into the error of pronouncing a patient to have a stricture of the urethra when no such obstruction exists. But, if I were asked, how any surgeon could perfect himself, so as to perform this operation with the utmost nicety and dex-

terity, I should say, by several times passing an instrument down *his own urethra.* The reader may perhaps smile at this suggestion. I, however, assure him that I make it in all seriousness, under the firm conviction—from having adopted the plan myself—that by so doing the young surgeon will obtain a more precise knowledge of the course of the urethra, and consequently a more complete appreciation of the manner in which an instrument should be passed, *than by any other means whatever;* whilst the dexterity he will thus acquire, and the comparatively painless and easy manner in which he will hereafter pass instruments for his patients, will amply compensate him for the slight inconvenience he will personally experience.

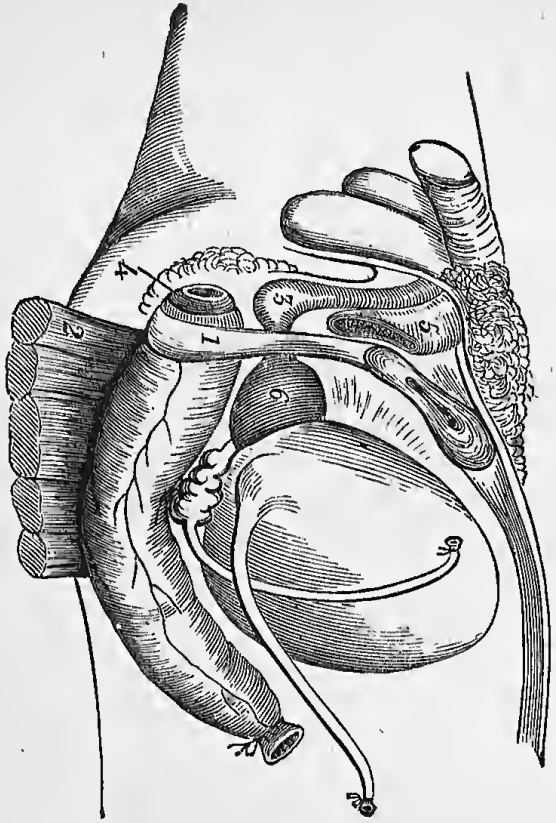
Some may imagine that this dexterity may be equally well acquired by practising the operation in the dissecting room, on "subjects;" but I can only say that the introduction of instruments along the urethra of the cadaver is a very different affair from the performance of this operation upon the sensitive urethra of the living subject.

I now turn to other points, which, if not so all-important as the preceding, are yet most essential to be remembered by the surgeon who desires to avoid falling into error. Thus he should be aware that it often occurs that patients complain of a frequent desire to make water, and of pain in doing so, as well as of experiencing painful sensations in the bladder and in the region of the perineum (all more or less symptoms of stricture of the urethra) and, nevertheless there shall not exist any urethral contraction, all the symptoms being solely attributable to disease of the rectum or derangement of the bowels and digestive organs. The late Sir Charles Bell truly says, in speaking upon this subject—"Mistakes about this matter continually occurring, and the distress

of mind which they occasion, as well as the severe and hurtful practice which is too frequently the consequence, give it a strong claim upon our attention. At one time we find a patient living an indolent life, and thereby hurting his health, lest by a sudden motion, he should displace a stone in his bladder; at another, irritation, and a strange feeling in the perineum lead the patient to believe that he has a stricture. In the one case, the patient is exhausted by the harassment of his imaginary evil, and his health by the confinement and want of exercise. In the other case it is still worse, since the irritation in the urethra draws the patient to a surgeon; he introduces a bougie, and as this usually gives relief, it is repeated until some mischief is actually the consequence. Very often there is a slight abrasion of the membrane by the unskilful use of the bougie, which, were it not for the frequent repetition, would soon heal; but by perseverance in a wrong practice, it becomes the source of pain and discharge." And Sir Charles might have added here, as he has elsewhere remarked, "the source of a severe permanent stricture." This distinguished surgeon relates many instances, in which derangements of the digestive organs, bowels and rectum, have produced symptoms analogous to those arising from the presence of stricture in the urethra, in which, in some instances, the patients have been obliged to submit to a painful course of bougies, and others in which lunar caustic has been employed for the removal of the imaginary strictures. It has also fallen to my lot to have repeatedly met with similar examples of incorrect diagnosis and improper treatment.

Since, then, it would appear that the most common symptoms of stricture may be simulated through the existence of disease elsewhere, it is of the utmost im-

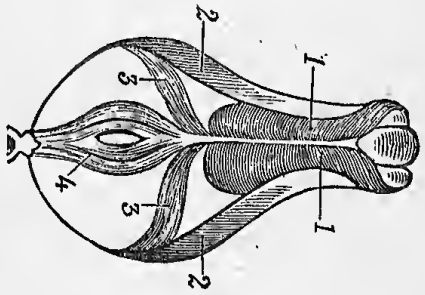
FIG. 3.



Lateral view of Fig 1.

1. Triangular ligament.
2. Levator ani muscle.
3. Bulb of urethra. 4. External sphincter ani.
5. Crus penis (portion divided).
6. Prostate gland.

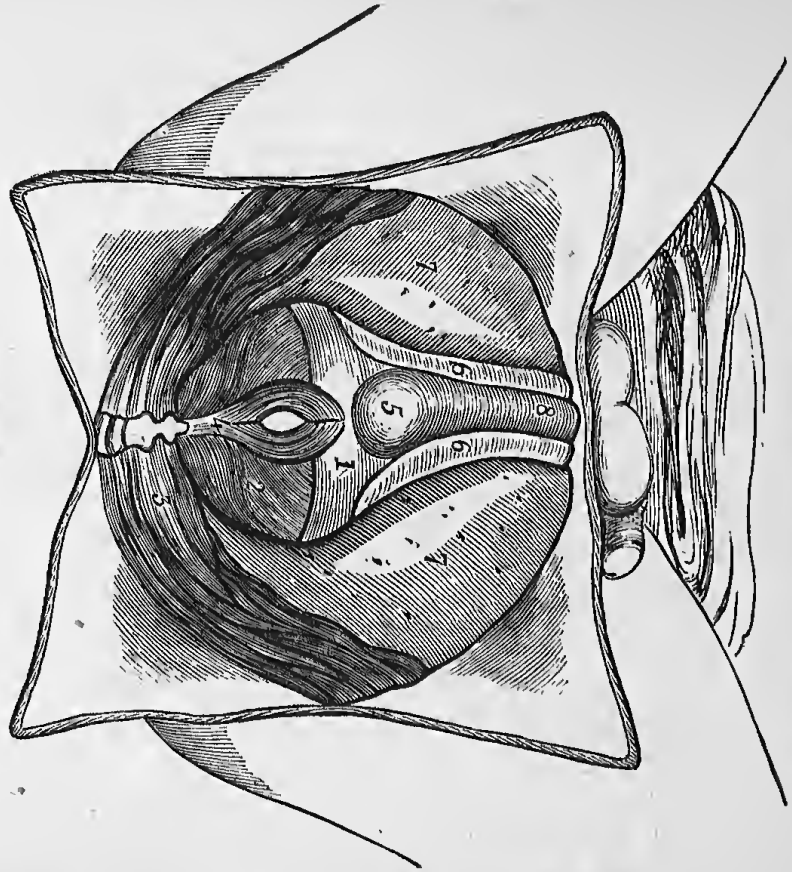
FIG. 2.



Surface muscles removed in order to expose Fig. 2.

1. Accelerator urinæ. 2. Erector penis.
3. Transversus Perinei.
4. External sphincter ani.

FIG. 1.



1. Anterior layer of the triangular ligame .
2. Levator ani muscle.
3. Gluteus maximus muscle.
4. External spineter ani.
5. Bulb of the urethra. 6 Crus penis.
7. Fascia lata. 8. Corpus spongiosum.

portance that this possibility should be known to all who may be called upon to treat such cases. As it is always difficult to convince patients that the urethral irritation under which they labour has any but a local cause, the surgeon may be hurried and urged into a course of treatment which can scarcely fail in the end to aggravate all the patient's sufferings.

Examination of the Urethra.

In order to pass a catheter with safety down the urethra, a light and experienced hand is the chief requisite. Yet there is one great essential or principle necessary, that is a knowledge, not a scanty idea but a thorough acquaintance with the anatomy of the perineum. I well remember in my student days, how most of the men scampered over their dissections of that part, trusting more to special demonstrations on the subject.

It is one of the most important parts of the body, and one which demands the closest study.

I do not intend describing the perineum from an anatomical point of view further than to give the drawings facing this page, which may help the reader to recall the anatomy in that region, and beg him to bear it well in mind when handling an instrument.

Fig. (1) is intended to represent the perineum denuded of its muscles, exposing the root of the penis with its bulb in contact with the triangular ligament.

Fig. (2) represents the layer of muscles taken off in order to expose the bulbous portion of the urethra and triangular ligament or deep fascia.

Fig, (3) is to give one an idea of the nature of the curve the urethra takes, and to show a side view as far

as possible of Fig. 1, together with the contents of the pelvis. I think it should readily demonstrate how easy it is to make a digital examination by the rectum of all the parts concerned in catheterism.

Now, without having the slightest knowledge as to the anatomy of the urethra, there are those who take upon themselves the introduction of instruments down that canal with the most perfect assurance. Down goes the instrument with the utmost nicety as far as the bulb or anterior layer of the deep fascia, where difficulty begins. "If at first you don't succeed, try, try, again" is a pretty maxim indeed, but with a catheter in the hands of an incompetent person, that idea must be abandoned. Not only an anatomical knowledge of the urethra as I have before stated, is an essential, together with a light hand, but one must have added to this a frequent practice in the operation of introducing instruments and, as already suggested, the passing of an instrument down one's own urethra is by far the best means of appreciating the natural obstruction in that canal, and of understanding how a patient appreciates delicate handling.

I would now beg leave to call the reader's attention to the woodcuts facing page 55, representing a section of the bladder and urethra. These drawings are intended to illustrate the natural obstructions that exist to the passage of an instrument in the healthy urethra, obstructions which, I have already stated, are too frequently confounded with those that are the result of morbid changes in the urinary canal: hence a knowledge of these natural obstructions is essential to all (medical and non-medical) who attempt the introduction of any kind of instrument into the bladder, whether it be for the purpose of ascertaining the ex-

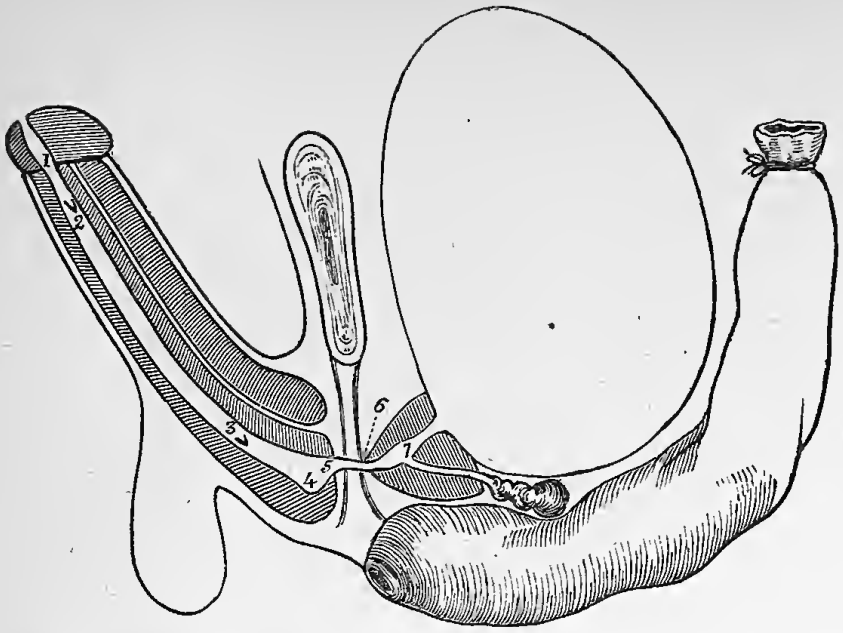


FIG. 4.—Section of bladder and urethra, showing natural obstructions.

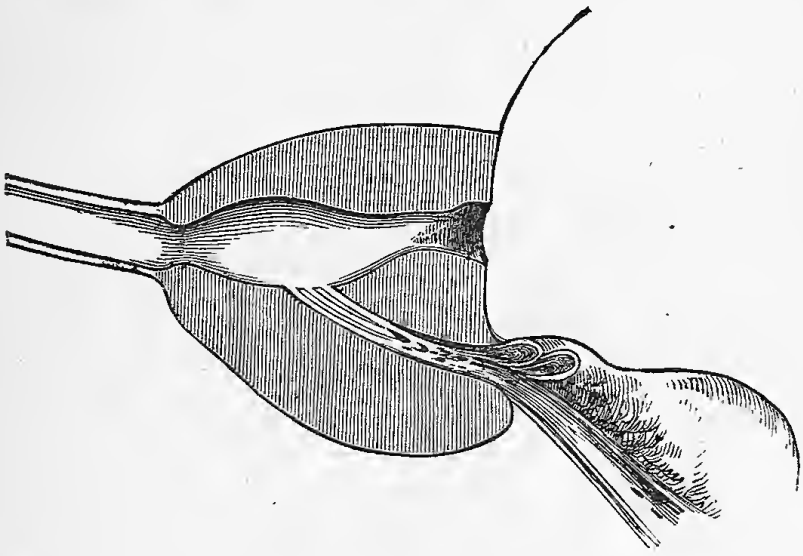


FIG. 5.—An enlarged drawing of the prostate gland, showing more plainly obstructions 6 and 7.

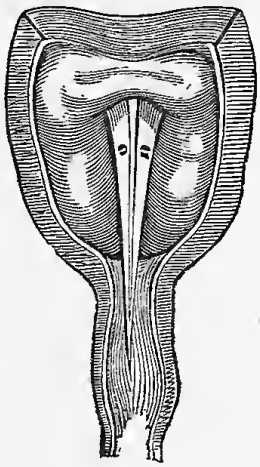


FIG. 6.—Represents the floor of the prostate gland, showing the urethral crest or veru montanum, prostatic sinus, and ejaculatory ducts.

istence of a stricture of the urethra, or for the removal or relief of this or other conditions. Without this knowledge, they are alike incompetent to determine whether there be a stricture of the urethra or not, or to treat with the slightest prospect of success that malady, should it exist.*

The 1st obstruction (Fig. 4) arises from the slight contraction of the urethra at the base of the glans penis. The 2nd obstruction is the presence of the lacuna magna. The 3rd obstruction proceeds from another lacuna that is met with just anterior to the sinus of the bulb. The 4th obstruction is at the sinus of the bulb. The 5th obstruction is experienced from the slight narrowing of the urethra that is caused by its passage through the deep perineal fascia. The 6th obstruction results from the narrowing of the canal at the junction of the membranous portion of the urethra with the prostate, added to which, when the point of the catheter reaches the entrance of the gland, a spasmodic contraction or grasping more or less takes place. The 7th obstruction arises from the point of the instrument sinking into the floor of the dilated part of the prostatic portion of the urethra, also by the projection of the prostate gland, at the entrance of the bladder. In cases of enlargement of the prostate, this would be still more apparent. (See figure 5.)

I will now make a few remarks on these natural obstructions, and the means to be adopted for their avoidance when exploring the urethra with an instrument, merely stating, *en passant*, that the contractions

* *The figures* have reference to those points of the urinary canal where it is either narrow, or where some other causes of obstruction exist, that are necessary to be kept in mind when examining the urethra.

and dilations represented in the drawing are more strongly marked than on dissection they would be found; but I thought it best that it should be so, that I might more clearly and forcibly impress them on the minds of the reader.

In commenting on these obstructions, we will take them as they have been enumerated. The first is of so slight a nature, that it might perhaps have been left out; indeed, I should not have mentioned it, but that I have seen such unaccountable and extraordinary errors committed on this subject, that I have thought it best to state everything that has appeared to me likely to elucidate it, and to guard against mistakes, even although I should thereby incur the charge of tediousness. The second obstruction is of more importance; for frequently the point of the instrument enters the opening of the lacuna magna, the orifice of which looks forward. This is more especially the case if the instrument is small. When this has occurred, it has sometimes led to the conclusion that a stricture exists. And further, if in consequence the bougie has been forced onwards, the lacuna has been torn, and much agony resulted therefrom. In passing an instrument, we shall escape falling into this error, by selecting a full-sized one; or if from circumstances we are obliged to have recourse to a small bougie, by then keeping the point of it to the inferior surface of the urethra whilst in that locality. When however, the instrument, either from want of care or accident, enters the opening of the lacuna, instead of urging it on, we should in this case withdraw it, and then pass it onwards with its point in a different direction to that which was first given to it. These remarks are equally applicable to the third obstruction, and therefore need not be repeated. The fourth obstruction is at the

sinus of the bulb. This is one of the principal natural obstructions; and is more frequently mistaken for stricture than any other; it is here that the most deplorable errors have been committed, and that strictures are frequently made by the inflammation resulting from the continued wounding of the mucous membrane of the urethra with instruments. (See fig. 19.) Here also false passages are often produced, by the employment of force to overcome the imaginary stricture. These errors arise from the point of the bougie being kept on the inferior surface of the canal, and allowed to drop, as it were, into the sinus of the bulb. The remedy is evident—raise its point: but in doing this we should slightly withdraw it, lest it be entangled with the urethra, which, if the point were suddenly raised, might thereby be lacerated. Indeed, as a general rule, it is always best, when we wish to alter the direction of the point of an instrument, to withdraw it a little before doing so. The fifth obstruction is not so prominent as that we have just treated of, though it has been mistaken for stricture. In passing this portion of the canal, by the instrument's point being kept too low, or out of the median line, mistakes have here been made as untoward as at other parts of the urethra. Care must therefore be taken to avoid these errors. The sixth obstruction has not only been mistaken for stricture, but has also sometimes been wrongly attributed to enlargement of the prostate. These are both grievous errors, the committal of which has caused much suffering. The means for overcoming this impediment are the same as those for surmounting that of the bulb, namely, keeping the point of the bougie on the upper surface of the canal. The seventh and last has also, like the sixth obstruction, been mistaken both for

stricture and enlargement of the prostate. Cases have occurred where in consequence of these erroneous impressions, force has been used to pass an instrument into the bladder, the employment of which force has caused laceration of the prostate gland, and extravasation of urine around the neck of the bladder, with all its direful sufferings and fatal consequences. A small catheter in addition to these impediments may sometimes experience opposition to its passage from entering the orifices of the ducts of the prostate, or by becoming entangled in the sinus pocularis. (See figs., p. 55.) Having enumerated these "natural obstructions," I would only further remark, that although they all exist, and have sometimes been mistaken for stricture, yet the three principal obstructions before named at the beginning of the chapter, are usually the cause of such an erroneous diagnosis being pronounced.

Any surgeon who shows the slightest disposition to resort to force, in order to pass an instrument into the bladder, must be either grossly ignorant, or utterly reckless.

Symptoms alone cannot determine the presence of stricture. An examination by means of an instrument can alone prove its existence. If discovered, its nature, locality, calibre, and form must then be inquired into. A patient visiting a surgeon in order to consult upon his stricture, should endeavour to have a certain amount of urine in his bladder, for the first thing the surgeon should do, is to ask the patient to pass water in his presence. You will learn a great deal by that. You will at once see by the size of the stream, his exertions, &c., what kind of stricture he is suffering from. I mean, of course, you should judge fairly well as to what amount of narrowing there is in the

canal, if any. You will then request your patient to lie down on a couch perfectly flat on his back, and to make himself comfortable under the circumstances; the exhibition of fear is very marked at times. I have often been present when there was a combination, a nervous patient and nervous operator, and it has been a very painful moment for me. However, choose then your bougie. I recommend, and always use, a silver one. The size you will regulate according to the volume of the stream you saw passed; in any case, never choose a small one; do not be persuaded into that. If you suspect no stricture to be present, take a No. 12 English; be sure it is clean, proceed then to examination as Fig. 7 shows.

A word before passing the instrument; see to these points: First. Examine the nature of the urine he has just voided; if it is thick and loaded with mucus, do not pass the instrument that day, prescribe those medicines which allay irritation and act on the urinary tract, and advise your patient returning in a few days' time, during which period he must abstain from late hours, dinner parties, excess of wine, &c. If a long tedious journey of 150 or 200 miles has been taken to visit you, and he intends returning the same day as the examination, if the urethra is unusually tender (this can be ascertained by looking at the meatus and running your finger externally along the urethra down to the anus), or should he be nervous or excited, in any one of above cases propose that the operation be delayed till a future visit. No operation requires so much care, the after results of which vary so much, that a surgeon is by no means justified in passing indiscriminately instruments into the urethra.

There are not a few qualified and unqualified men who are ready to undertake with the utmost assurance of success the operation of introducing into the bladder

a catheter, as they have on many occasions before performed the operation without encountering any difficulties. Their success in many instances is an accident of that I am well certain, as I have often seen instances when the slightest obstruction having taken place, the operator has been compelled to abandon the attempt. To be able to perform the operation well and in a masterly manner, a strict knowledge of the anatomy of the urethra and surrounding parts is, as I have said before, of the utmost importance. I know of no operation better adapted to attract the attention of the general practitioner and young man than that of passing an instrument into the bladder, and from my experience I know of no operation of which the general profession understands less.

There are many kinds of bougies and catheters, but none better than the silver, with a good large curve. There are also one or two ways in which to introduce a catheter, but none better than the simplest.

Place the patient flat upon his back in a perfectly straight position, open legs, and slightly raise the knees, stand on left side of the patient, take catheter

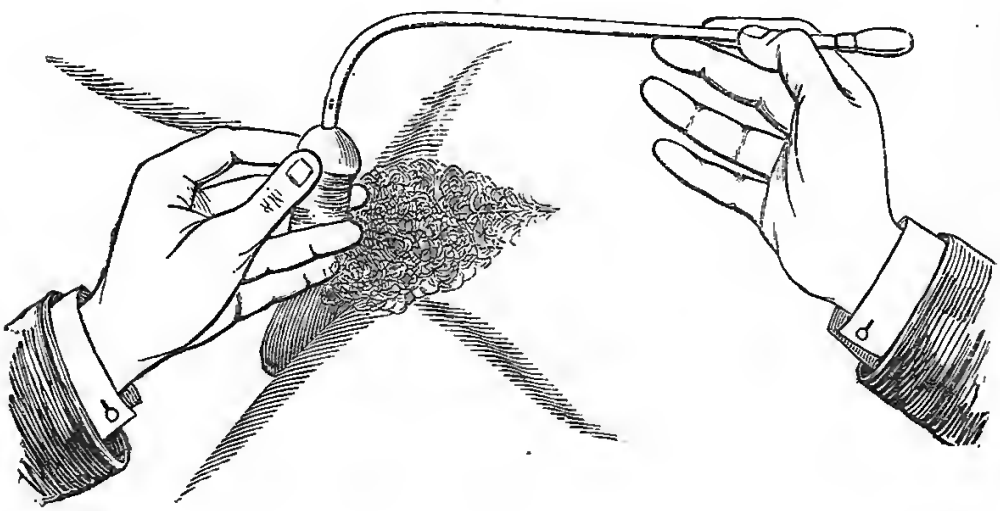


Fig. 7.

in right hand, dip it in warm water, or warm it by friction between your arm and sleeve (an easier and more expeditious manner), and well oil it. Take the penis in the left hand, raise it gently in order to make the canal form almost a straight line from the meatus to sinus of bulb, *vide* figure, and proceed to introduce the point of catheter into the meatus, as figure 7 shows, assuring your patient if he be nervous, that there is no cause for fear, and that it will hurt no more than it did at the moment of placing instrument into canal. Continue to pass the instrument onwards in a perfectly straight direction until it is arrested, which it will be by dropping into the sinus of the bulb. (See Fig. 8.)

The point of the instrument having reached the bulb, its handle has now to be gradually raised (see Fig. 9)

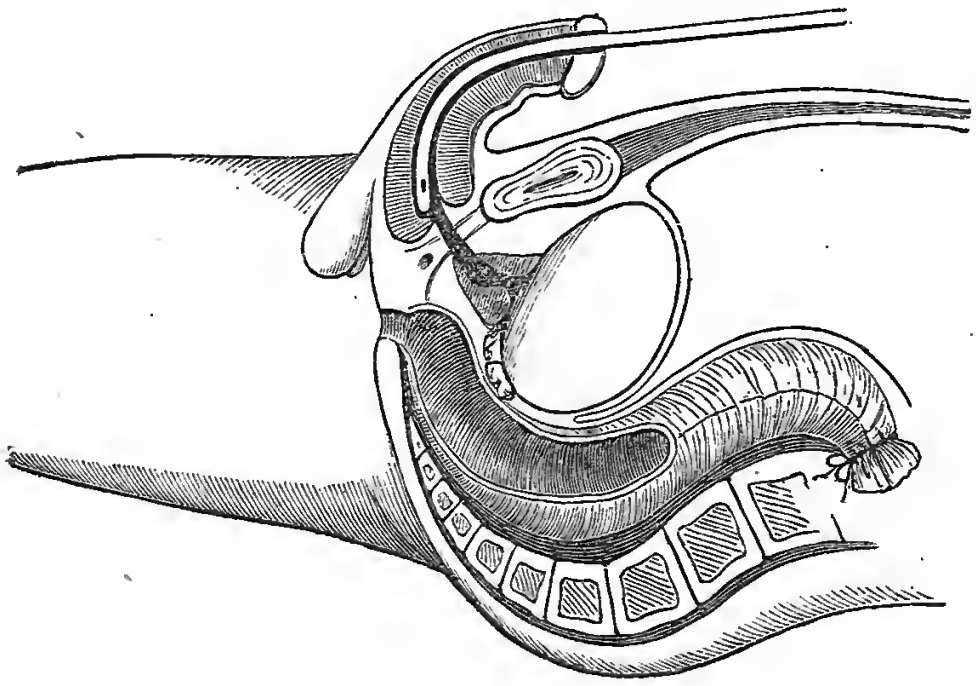


Fig. 8.

from a horizontal position (having been kept in the median line and horizontal position so far) until it reaches a vertical position.

On Passing Instrument into Bladder.

Just prior to the handle reaching its perpendicular position, the left hand may liberate the penis, for immediately the catheter reaches its perpendicular position, in ninety-nine cases out of a hundred, the point becomes liberated from the sinus of bulb and rides straight into the bladder by its own weight. If, however, there is a hitch I think that fig. 12 (p. 65) will show the cause. There is a tendency in the beginner to raise or depress the handle (according to position) too soon in order to

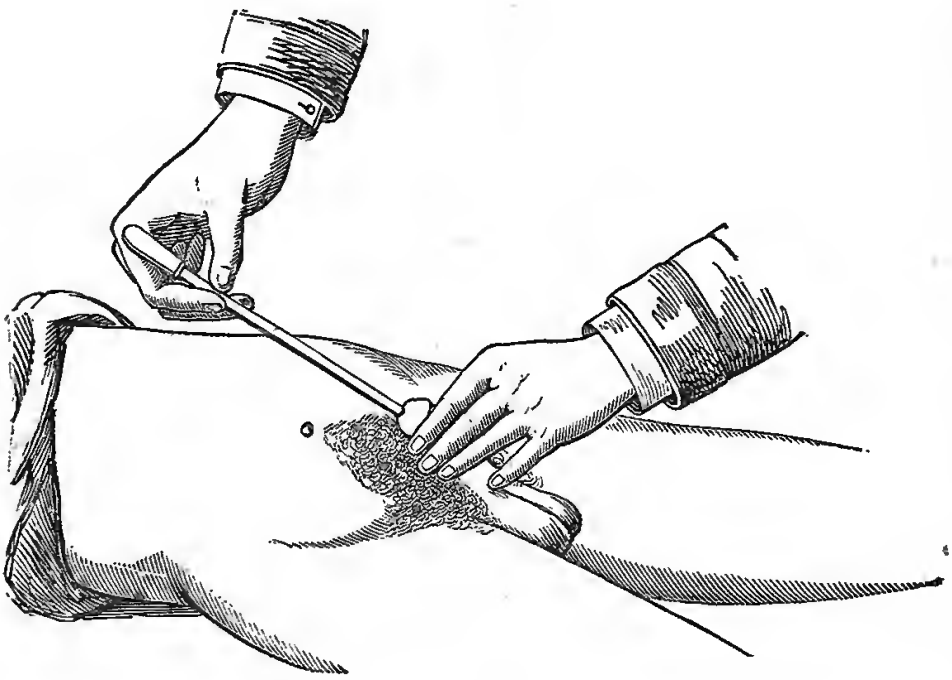


Fig. 9.

reach the bladder. Never be in a hurry. Whilst the instrument is sliding into the bladder the thumb is placed on the orifice of catheter in order to prevent urine flowing out and wetting patient (*vide* figure 10).

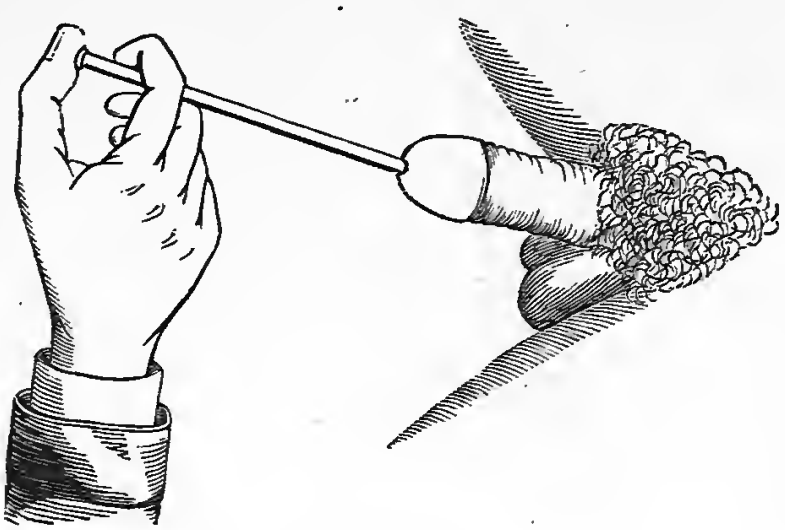


Fig. 10.

Should, however, the point become hitched in the sinus, use neither pressure nor force, but slightly withdraw the instrument and proceed as before.

In withdrawing the instrument an equal amount of care is required, for a hurried and rude withdrawal is apt to do much harm.

The steps for the withdrawal will be the reverse almost of the passing. Place the thumb over orifice (*vide* figure 10), commence gently to withdraw; if the patient murmurs, stay a moment, then continue and whilst in the act of withdrawing, perform the action, of raising handle ever so gently, and so continue till you find yourself in the same position almost as if you were prepared to pass it again.

Retain still the thumb over the orifice until you place the instrument in some receptacle, as a little urine is always retained in the instrument till the thumb is removed.

I should like to suggest the method by which false passages are generally made. It is not uncommon to see the catheter grasped by the operator as if he meant operating against some formidable obstruction, instead of only guiding the instrument, as naturally it cannot

walk into the bladder. Now, instead of handling the instrument as lightly as one would a pen (see figure 11),

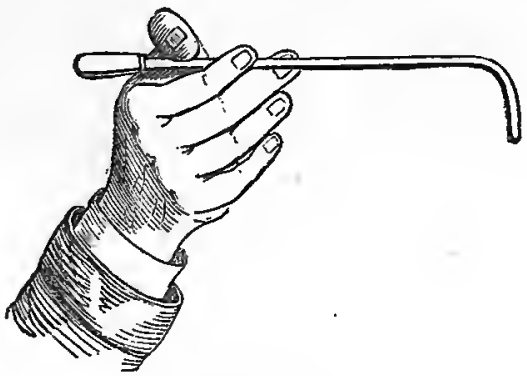


Fig. 11.

it is, as I stated, grasped more like a hammer, and thus handling the instrument I will defy anyone, be he whom he may, to appreciate the natural obstacles of the urethra, and the consequence is that the instrument is forced through the lining membrane with the result of a false passage. Rude stretching of the penis or clutching of the bougie, are signs of awkwardness and incompetency. A patient who has once had an instrument nicely handled, and directed safely through a stricture or natural urethra, will distinguish at once if the surgeon is acquainted with the use of instruments and a knowledge of his profession.

I do not intend occupying further space here in describing any other method of passing instruments. I take it upon myself to assert that I have described the only correct way in which to introduce them. Should anyone be foolhardy enough to pass the instrument on a patient whilst in a standing position as some operators do, who consider themselves *au fait* at catheterism, and who recommend and perform the *tour de maître*, I hope they will meet with the reward they deserve. It often happens that the patient will faint during the introduction of an instrument, out of simple fear. In faint-

ing should he fall suddenly upon you, what accident is likely to arise? The urethra is liable to be badly torn and severe hæmorrhage result. No possible advantage can be gained by this *tour de maître*, and it should be condemned.

I will call attention now to Fig. 12, which represents a gentleman who is manipulating the instrument

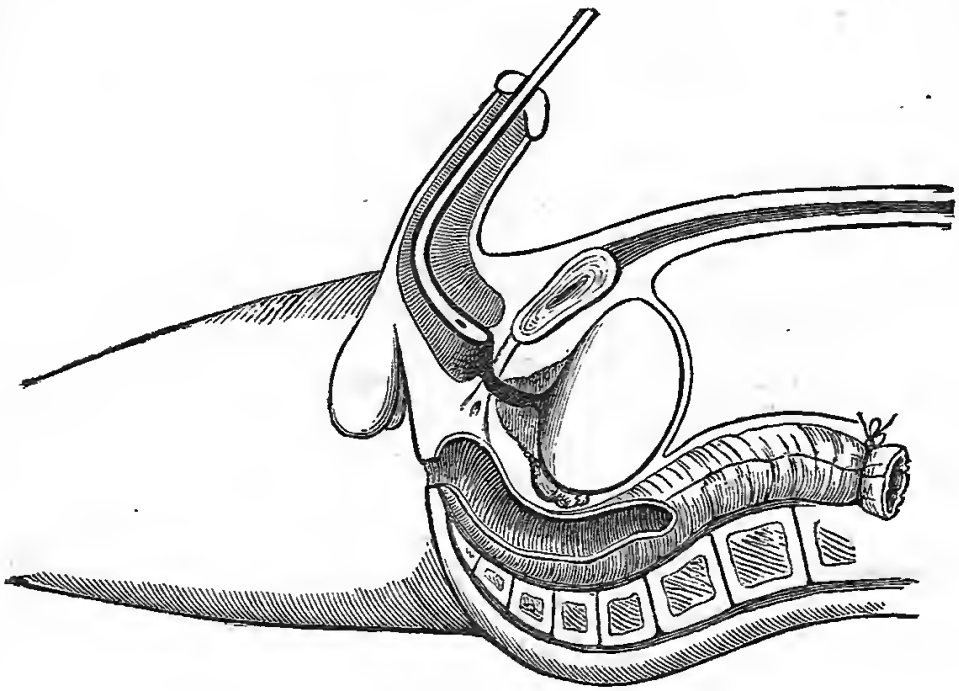


Fig. 12.

making a most serious error. He has been performing the *tour de maître* or something. The diagram speaks for itself almost, the handle is being elevated too soon with the result that its point rises equally soon, and is above the natural opening in the triangular ligament; and to the inexperienced, it would give the idea that he had hit upon the stricture, especially as the patient would cry out with pain. Possibly, the gentleman may use what he may term gentle pressure, causing still more pain to the poor sufferer in whose urethra the instrument is, until at his request or by main force the instrument has to be withdrawn. Of course, I need not add that the

urethra is wounded, and blood follows. Now, *if*, when the catheter or bougie is arrested deep down in the perineum about the membranous portion, the left forefinger were inserted into the rectum it would enable the

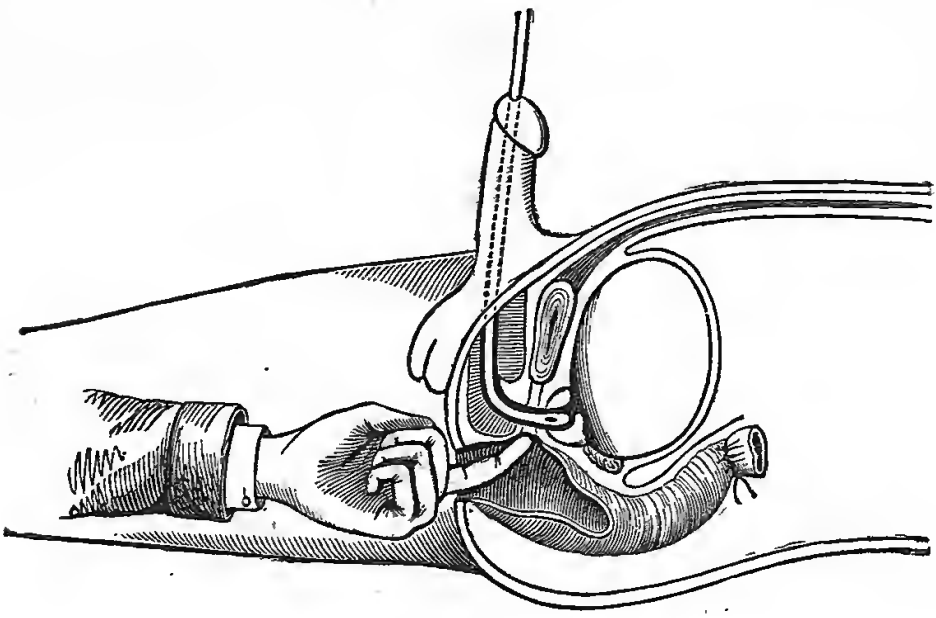


Fig. 13.

operator to find out the situation of the point of the instrument, as likewise the cause of the difficulty; he could then withdraw the instrument, and direct it with greater certainty into the bladder. (See fig. 13.)

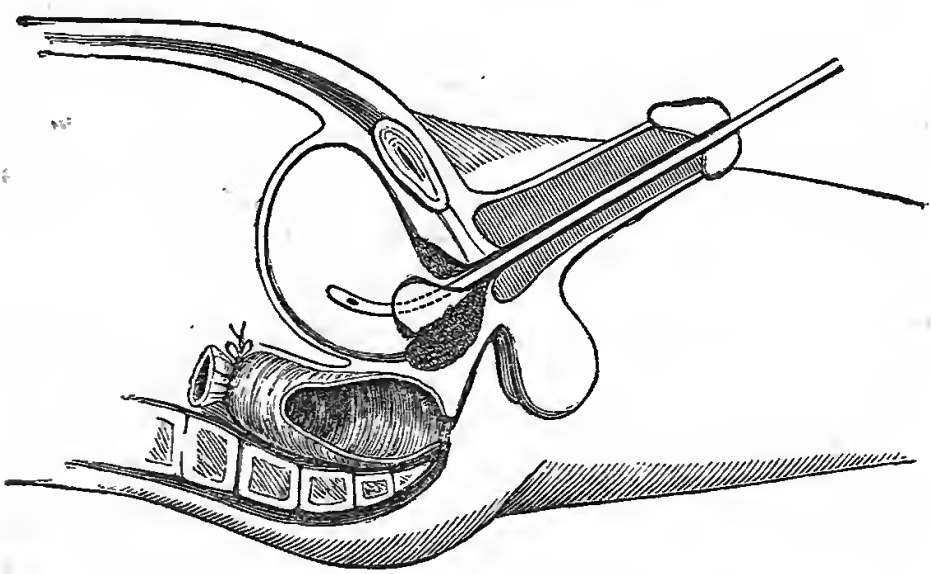


Fig. 14.

Fig. 14 represents what unjustifiable force must do, when the middle lobe of the prostate has become enlarged. This accident of course will only occur in more or less aged people. But in these cases all the more care is required as the state of the health in some will not permit of a wound in so important and sensitive an organ.

I now propose to offer a suggestion which may be found serviceable in guarding the mucous membrane of the urethra, from the too often forcible attacks it has upon it, the danger of false passages and severe lacerations and hæmorrhage; and moreover, may overcome and surmount many of these impassable, impermeable strictures. I should conceive the words conquerable and unconquerable stricture would be more applicable, as I have before stated, where one surgeon often fails in passing the stricture, another on the other hand succeeds. I will illustrate what I am about to propose by diagrams, in order to simplify matters. Many artifices have been invented and devised for much the same purpose, perhaps not however to guard the urethra from harm, but to pass the so-called impermeable stricture.

One of the many artifices is represented in Fig. 15, illustrating some very fine bougies made of whalebone, in the form of a corkscrew, or at any rate having a corkscrew movement. These I should say, even in the most experienced hands, would be warranted and calculated not to find their way into a stricture (should they do so, it would be by the merest chance or accident) but more likely to find their way under the mucous membrane. Another mode consists in passing a number of very fine bougies one after the other down the urethra in the hopes that one of them may find their way into the stricture, which is sometimes successful, when

Fig. 15.

however it does not succeed, something like Fig. 16 happens; one has been passed down a little larger than the others that are to follow, then a second, a finer one has been introduced with the result, being so

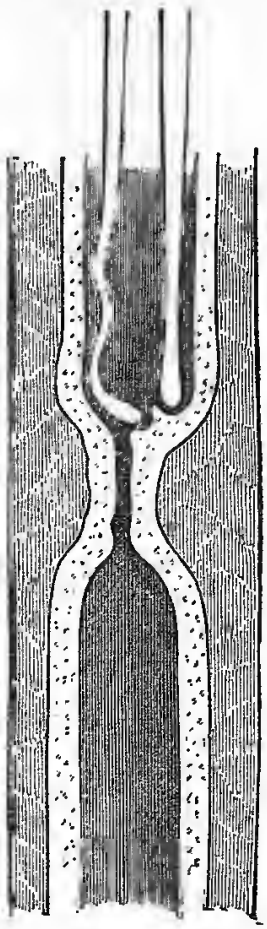


Fig. 16.

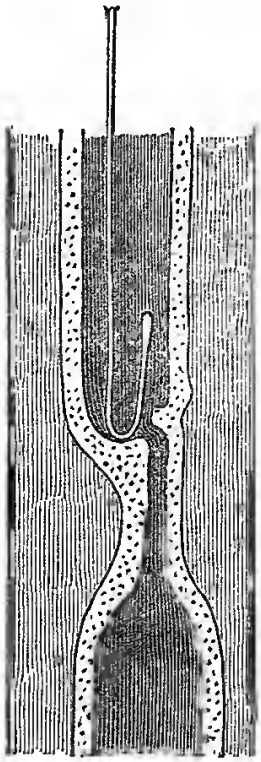


Fig. 17.

slender it bends upon itself, and occludes the entrance to the stricture. Any number may now be passed down, and they would rest on the bent bougie. Fig. 17 represents one of these so-called impermeable strictures that has undergone severe trials, in order to get an instrument to pass the stricture, the dip having been made by force and pressure employed against the too yielding urethra; a simple stricture, though small, has been converted into a complicated one, making it more or less valve-like.

The result is, that no matter how skilful a sur-

geon may be, he can never conquer; and it will be called impermeable, whereas, the patient is able to pass his urine, although, in a small stream, naturally. I have endeavoured to make the diagram speak for itself. It is supposed to represent a very fine bougie passed down to the seat of stricture, which has found its way with ease into the more or less half made false passage, as certainly if much force were used, it would not be difficult to slip under the mucous membrane in the condition the stricture in figure is supposed to represent. However, the fine bougie has bent upon itself, and instead of sliding into the stricture, the valve-like piece has conducted its point upward.

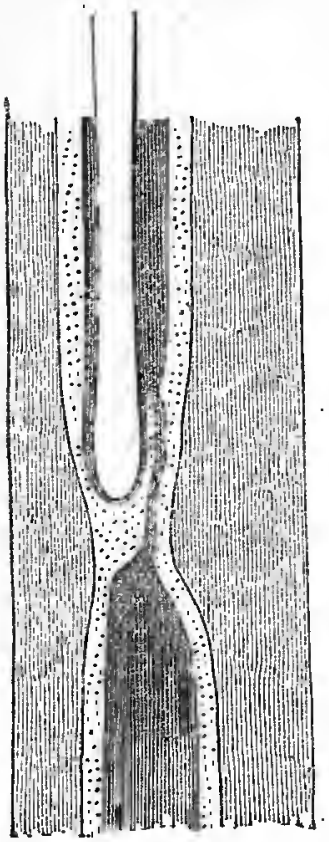


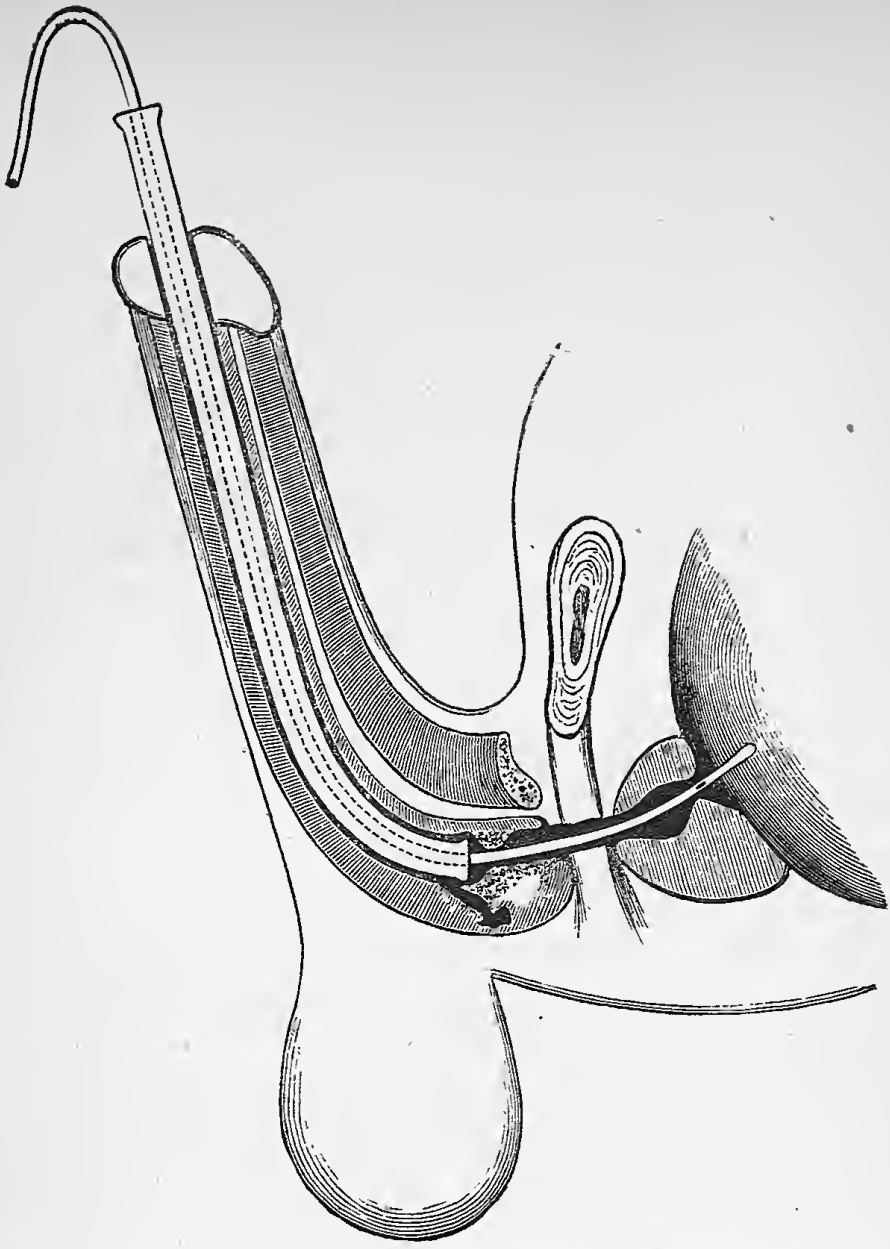
Fig. 18.

Fig. 18 shows the objection in my opinion to the advice often given, viz.:—when the point of the catheter feels held by the stricture, or is at the entrance of stricture, a gentle firm pressure is recommended. Someone is supposed to be trying his idea of gentle firm pressure in Fig. 18 with what result it shows:—*That* gentle firm pressure requires some amount of experience and a thorough knowledge of the urethra, before it can be produced, and my advice is, never practice it when simple means may be resorted to, as for instance, one I am about to suggest.

Nothing can convince me that the manner and modes, in which fruitless attempts to pass small complicated strictures (sometimes termed impermeable) are not a frequent source for the supply of inflammatory matter

entirely leaving out the question of the amount of injury done and useless suffering caused to the patient.

I would suggest a conductor to act in a double capacity, viz.: firstly for protecting the mucous membrane of the urethra from unnecessary thrusts and stabs, and secondly, to thread the stricture as it were with a fine catheter or bougie. Let a stricture be situated where it may, one can always pass a full sized instrument down to it, so I have conceived the idea of converting an ordinary catheter into a conductor, this being simply a tube enclosing a central tube capable of admitting a No. 2 gum catheter, and this central tube surrounded by tubes of smaller sizes for the passage of fine bougies and catgut. The end of the conductor having a flat surface with well rounded slightly protruding edges, can be passed down to the entrance of the stricture, and its face gently pressed against it; thus the canal is dilated by the instrument, as also must be the mouth of the stricture, thus converting a complicated stricture into a more simple one, all that remains to be done is to pass first down the central tube a No. 1 or 2 catheter. Should one pass into the bladder, the conductor can at once be withdrawn leaving the catheter in stricture. If the central one does not pass, it is because the tube is perhaps not immediately opposite the mouth of the stricture; there is little doubt that one of the other tubes will be the means of guiding catgut or fine bougies into the stricture. Every instrument requires careful handling and a certain amount of common sense exercised in its use. This conductor forms no exception to the rule. If all the tubes fail at first, one will succeed ultimately, by means of withdrawing or rotating the conductor very gently in order to alter the position of affairs. Even after complete failure, we may have the satisfaction of knowing that the urethra has been



FIG, 19.—Represents section of urethra and bladder, with the catheter conductor in use.

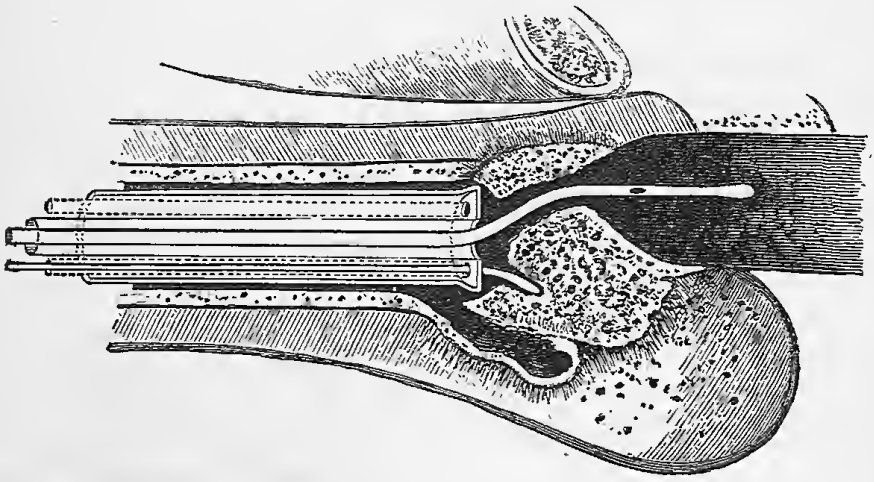


FIG. 20.—Enlarged drawing of above stricture, with section of conductor showing tubes. A small bougie has been introduced into lower tube, simply to give an idea of its use.

protected from rude treatment, the mucous membrane being saved from many a bruising and laceration. Failure however, will not often happen if the conductor be used in a proper manner.

I may draw the reader's attention to the figures facing this page. I have endeavoured, with my pencil, to make them convey my ideas. It will be seen that the lower sketch is an enlargement of the upper one, at seat of stricture, containing a section of the instrument proposed; whilst the instrument contained in the whole urethra shows its form and mode of use.

One can imagine that such a stricture complicated with a false passage would, especially in inexperienced hands, be subjected to much rude treatment before success attended the introduction of an instrument.

After having tried with the finest catgut and failed, one must conclude then that the stricture is so small as to almost obliterate the canal, or the way through is exceedingly tortuous and intricate.

Many have said that the catgut bougie cannot be controlled. I think, however, the conductor overcomes that difficulty.

Mr. Reginald Harrison, of Liverpool, says—

"Prolonged catheterism is in itself an evil; every deviation the instrument makes from the course of the urethra occasions a rent, and every rent leaves a scar, so that in this way the original stricture may be considerably increased."

I venture to maintain that the conductor will protect the urethra and prevent any deviation of the catheter or instrument used.

Extremely fine catheters, of sufficient length without caps, are made by Messrs. Walters for use with the conductor, and also catgut bougies.

I propose to offer another suggestion with a view of treating stricture in a rational manner, and avoiding the use of force. There has been no instrument invented that has been so much the cause of the employment of force, by temptation, so to speak, as the narrow-necked, bulbous-pointed, soft, gum elastic bougie. This instrument has a nasty, snake-like movement (though useful in experienced hands). The head and neck often insinuate themselves through a stricture, and simply because the operator has by the means of his instrument succeeded thus far, he deems gentle pressure all that is necessary to carry the instrument on into the bladder. The question arises, to how great an extent this gentle pressure is carried? I think I might safely guarantee that a surgeon would not apply the same amount of pressure in his own urethra if he had occasion to do so as he does on many a patient. Very often I have heard the cries, "Oh! stop, please stop. My dear sir, you must stop. I can't stand it any longer." The patient almost forces the withdrawal of the catheter. I also know of many cases where the patients have not troubled the particular surgeon again. This is one cause I am nearly certain, of those stricture-patients roaming from surgeon to surgeon, until they find one who just knows how to use an instrument, what amount of pressure, NOT FORCE, to apply, and when to apply it. However, to revert to my other plan, I was speaking of the narrow bulbous-pointed instruments. Fig. 21 represents a couple, one conical and one bulbous. In taking up a bundle of these instruments you will hardly find one alike. These instruments, as I have

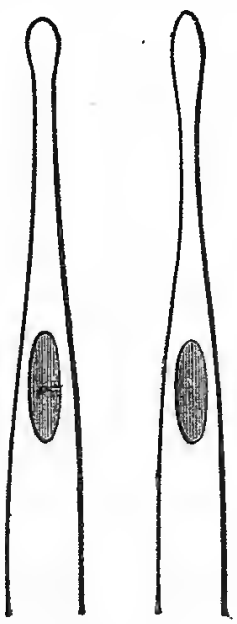


FIG. 21.

before stated, are most dangerous in inexperienced hands. With no other instrument have I seen so much injury done, and hæmorrhage result as the one I am at present discussing. Is it not, I ask, a daily occurrence that in the act of passing one of these French bougies, that after a little more or less manœuvring, and a certain amount of pressure, the head suddenly thrusts its way through the stricture, leaving its neck grasped more or less. The manipulator discovering this (as well as the patient appreciating it by the pain it causes), deems that with a little more pressure, the enlarged portion of the instrument will find its way through the stricture and pass on to the bladder.

I need not deny that it may not at times succeed, but what effect it produces upon the patient and stricture needs no description from me. Suffice it to say the stricture has been forced, although in some cases in a mild manner. Supposing the body of the instrument cannot be passed through the stricture, when that instrument is withdrawn, what is found in the eye of the catheter (if one be used)? *Why*, a clot of blood. Supposing the operation to have succeeded, what is found in the urine that is drawn off? *Why*, a clot of blood! And what does this prove? *Why*, that force has been employed. When, in my student days, this sort of thing was constantly happening, and I always found it was put down to the stricture being irritable, I used to say to myself NONSENSE. And so it is to-day. Every time an instrument is withdrawn, and there is any blood to be seen, it is always THAT IRRITABLE STRICTURE. When the head has slipped through the stricture, and the surgeon wants in his anxiety not to lose an opportunity of getting into the bladder, he will say to the patient, "Ah! the stricture is in a state of spasm. Bear a little pressure, and we shall overcome

that, and all will be right." And the patient is often quieted by this remark, and bears the pressure to the utmost endurance of his strength.

Oh, you spasmodic, irritable stricture, what a mass of ignorance you cover and answer for!

FORCE, the very thing one wishes to avoid in operating upon the urethra, is irresistibly thrown in our way, and almost unwillingly one is made to employ it by the use of these snake-headed instruments.

Many of these instruments have a head and neck corresponding in size to a No. 3 or 4 instrument, and the remainder of the body immediately dilating into a No. 10 or 12, therefore presuming, after the head and neck is inserted into the stricture, is it right that the body should be made to follow? No. Accordingly, the idea occurred to me to have instruments made to all intents and purposes the same in character as the French gum elastic, with the difference represented in Figs. 22 and 23.

Outwardly the instrument is identical with the simple gum elastic catheter, but as the figures 22 and 23 show, it is compound, one instrument being encased in a larger one, so that if the stricture be too small to admit the whole instrument, the head and neck having passed through the stricture with a jump, as is invariably the case, and then arrested, the operator can continue with the smaller instrument whilst the bigger is withdrawn, so that all danger of pain and injury to the mucous membrane is avoided.

Fig. 22 represents the instrument closed, with its head and neck grasped by the stricture. Fig. 23 represents the instrument being usefully employed. I think I may safely say the figures speak for themselves, the contained catheter being passed on into the bladder, the case remaining behind, which will naturally be with-

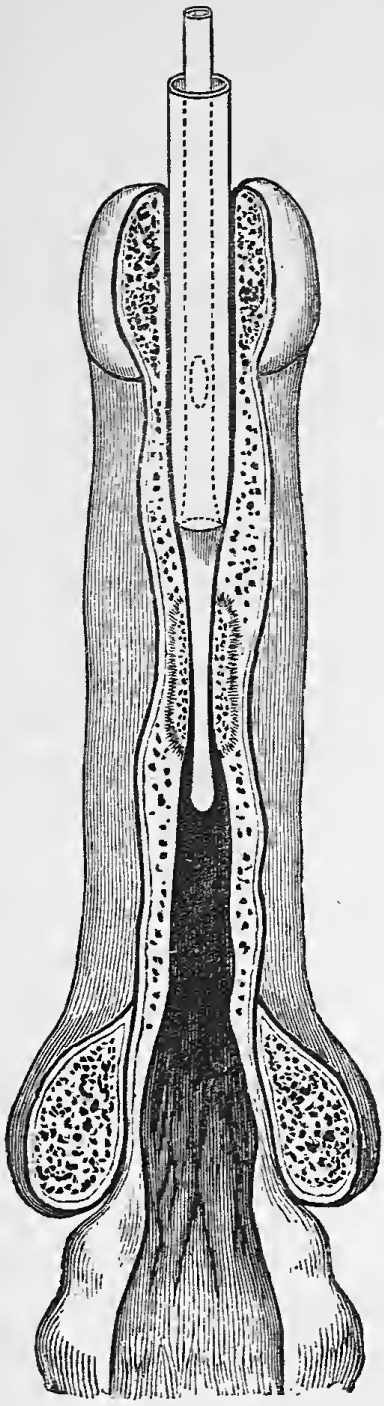


Fig. 22.

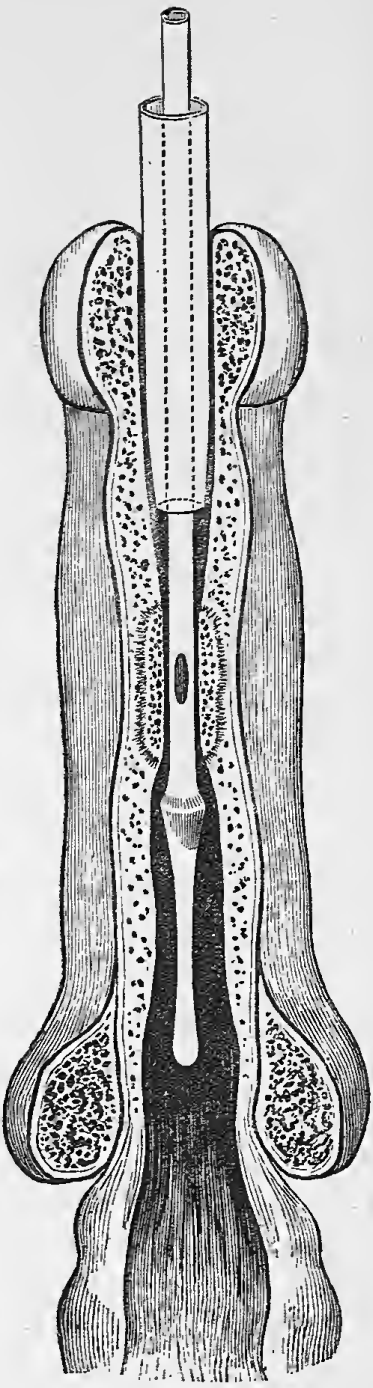


Fig. 23.

drawn. I have used my best endeavours to make the diagrams self-explanatory.

A hint that may not be out of place here, especially whilst speaking of these flexible catheters. The patient is very often able to guide a surgeon by telling him if the instrument be in the stricture or not. There are patients who have false passages, who will call out to the surgeon immediately if the instrument has taken the wrong course. I have often heard a patient say, "Look out, its in the wrong passage;" or, "Its just entering the stricture; go easy, its very tender." So, if a patient be able to guide you, pay attention to what he says, as it will often save a needless amount of unnecessary poking about. I have had a patient say to me, when I have been exploring a stricture, "Just withdraw the instrument a little bit, and direct its point more towards my right side," which I did, and sure enough the movement was successful.

By means of the conductor described for use in very narrow and intricate strictures, and the double flexible catheter for ordinary strictures, I trust I shall have been the means of saving to some small extent unnecessary suffering in unfortunate stricture patients.

Before closing this chapter I should like to offer another suggestion as to the ordinary silver catheter, which many are in the habit of using in exploring the urethra, or in relieving a case of retention not due to a small stricture. One has constantly remarked a senior surgeon take the point of a gum catheter between his finger and thumb, make a sharp bend, and then insert it into the urethra. This is a very old idea indeed, and is done in order to prevent its point coming in contact with the inferior surface of the urethra, and so avoiding the natural obstructions.

All silver catheters are made upon a certain curve,

and with conical points, which vary very much; I have seen some extremely pointed. Now the common curve that is used certainly and without doubt clings to and follows the floor or inferior surface of the urethra with its point ever ready to meet the natural obstructions. Figs. 24 and 25 will without further explanation, show what I mean. I think if the disuse

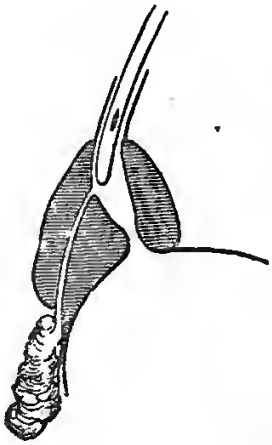


FIG. 24.

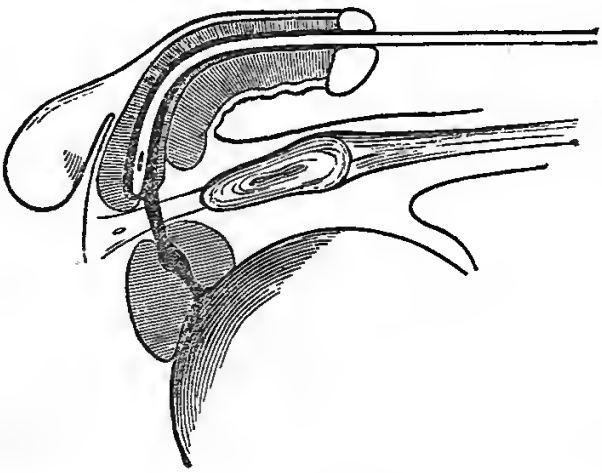


FIG. 25.

of these old instruments were encouraged it would be kind, to say the least of it. The very thing one wants to avoid is forced upon one by these old instruments—that is not to follow the inferior surface of the urethra, but to cling to the upper surface. Of course, with old experienced hands, it may be all right, but we are not ALL OLD and EXPERIENCED. If the reader will be good enough to compare these next figures (Figs. 26 and 27), with the last, he will see that the catheter in this last figure (one which I would strongly recommend for general use) inclines itself towards the superior surface, and has a bulbous point still more inclined upward. I have also depicted the vesical extremities in the prostatic portion, the

figures 24 and 26 show what advantages or disadvantages each one possesses.

I now arrive at the closing words of this chapter, and I beg to express the earnest hope that my sugges-

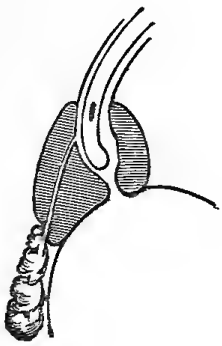


FIG. 26.

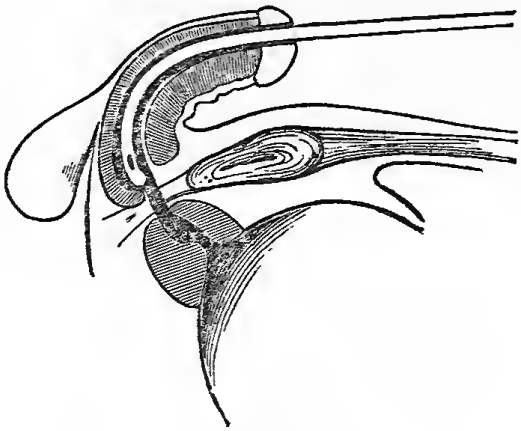


FIG. 27.

tions will be found to have a certain amount of common sense attached to them, and that the instruments will prove themselves worthy of at least a trial.

CHAPTER V.

ON SPASMODIC STRICTURES.

As all forms of urinary obstruction, comprised under the general term of strictures of the urethra, are, with rare exceptions, in their origin purely spasmodic, this variety claims our first consideration. At the same time, an account of the development, progress, and symptoms of Spasmodic Strictures, whilst it will serve to illustrate their nature, will also in a great measure equally instruct us in the primary history of the more serious permanent contractions of the urinary canal, of which I shall by-and-by treat.

That species of urinary obstruction, generally denominated Spasmodic Stricture, is, strictly speaking, no stricture of the urethra at all:—that is to say, the impediment to the passage of the urine does not arise from a morbid contraction of the urethra *per se*, as the name would lead us to infer, and as some surgeons affirm, but results from what may be denominated a mixed action. In other words, whilst the immediate and *exciting cause* of the spasm exists in the urethra, the spasmodic action, which actually creates the obstruction, mainly arises from a derangement in the muscular system of the genito-urinary organs.

"It is very easy to persuade a patient, when he has a

stricture, that the occasional obstruction to the discharge of the urine arises from spasm; and when, after any little irregularity, he is unable to pass his urine, and feels a girding and pain in the seat of the stricture, and when he finds that the surgeon cannot introduce a bougie, he attributes these indirect effects to a spasmodic state of the stricture. If he is relieved by the warm bath, opium, and other antispasmodic medicines, he is then convinced that he has a stricture, which is occasionally spasmodic.

"But the patient is deceived, and, what is of more consequence, the surgeon is also in an error; for it can be shown that this spasm is not in the stricture itself, but that it is a spasmodic action of the muscles surrounding the urethra.

"In the diseases of the urethra, as in other parts of the body, inflammation precedes, or accompanies increased sensibility. Where stricture is, there is much increased sensibility; and wherever the stricture is exquisitely sensible, there we are sure to find the function of the muscles deranged, forming the case which is called spasmodic stricture. This spasm is produced by the acrid urine coming in contact with the sensible surface of the urethra, which, being inflamed, is not imbued with its sheathing secretion; instantly the muscles are called into action; the ejaculator seminis contracts by impulse, as is its nature when excited, and the other sphincter fibres contract firmly; so there is frequent call and frequent stoppage of urine, with painful contractions of the fibres on the inflamed and excited parts. This action of the muscles of the urethra does not merely mechanically obstruct the flow of urine, but by the sympathy existing between these muscles and the muscular coat of the bladder, the contraction of the bladder ceases.

"Thus, out of a party of men drinking together, there may be one who before the end of the evening cannot pass a drop of urine. On inquiry, it will be found that he has had a slight disorder in the urethra, perhaps the remains of gonorrhœa. It is a mistake to suppose in such a case, that the fulness of the vessel has closed the passage to the urine; the same cause which has inflamed his countenance adds to the inflammation and sensibility of the urethra, and the first drop of acrid urine is followed by contraction, spasm and obstruction.

"As to spasmodic stricture, it has no existence, and the symptoms attributed to the occasional contraction of the stricture are with more truth to be ascribed to the deranged action of the surrounding muscles." *

Spasmodic strictures, therefore, may be defined as the consequences of inflammation in the urethra, or of the existence of a state of morbid sensibility and irritability of that canal, which, on micturition, produce a disordered action in the expulsive muscular system of the urinary economy, whereby is occasioned more or less impediment to the free and natural discharge of the urine. This disordered action ranges through every degree of intensity, from a slight hesitation in voiding urine, to a total retention.

In many instances, the first attack of spasmodic stricture is both sudden and severe. Indeed, it is so sudden and intense as to occasion a partial, if not total, retention; this constituting probably the chief reason that surgical aid is first sought.

But whether spasmodic stricture attacks the patient suddenly or gradually, it is always preceded, or accom-

* Bell on Diseases of the Urethra.

panied, by a degree of inflammation, more or less severe and general. In those cases, in which the spasmodic affection only gradually developes itself, the disordered action is mostly the result of a preceding acute inflammatory attack, terminating in a chronic kind at one or more points of the urethra. When a patient in this state voids his urine, it produces, on passing over the inflamed spots, an amount of pain proportionate to the intensity of the inflammation or morbid sensibility; whilst, through the sympathy existing between the urethra and the muscles surrounding it, the action of the latter becomes instantly disordered, thereby occasioning more or less difficulty and irregularity in the expulsion of the water.

We constantly see an analogous effect produced in patients labouring under a common inflammatory sore throat. When they swallow any fluid (especially if it be at all stimulating), as it passes over the inflamed parts, pain is created; a simultaneous difficulty is experienced in swallowing, and an irregular action of the muscles of deglutition, and of those surrounding the throat, is produced. Could we under these circumstances observe the downward flow of the fluid, as we can that of the urine as it passes from the urethra when spamodically affected, there can be no doubt but that we should find it was contracted and irregular. Fortunately neither the patient nor the surgeon can do so. I say fortunately, because I fear, if it were otherwise, WE SHOULD HAVE THE SAME ERRONEOUS OPINIONS FORMED, AND THE SAME UNNECESSARY POKING OF INSTRUMENTS DOWN UNFORTUNATE PATIENTS' THROATS, TO REMOVE IMAGINARY STRICTURES OF THE ŒSOPHAGUS, THAT WE NOW TOO OFTEN HAVE UP THEIR URETHRÆ FOR THE CURE OF EQUALLY NON-EXISTING OBSTRUCTIONS.

To those general observations I have only to add that

in some instances every trace of inflammation disappears from the urethra, and although we may be unable to detect during life, or after death, any alteration in the natural appearances of the tissues forming the urethra, yet we constantly observe that its undue sensibility, and the irregular spasmodic action, or, in other words, spasmodic stricture, continue long after the disappearance of its primary exciting cause.

Having made these brief remarks on the causes and nature of spasmodic strictures, I shall now proceed to a more minute consideration of the different circumstances under which patients first become liable to them. Here I may conveniently divide spasmodic strictures into two varieties, viz., into those which result from sudden and severe attacks of inflammation, and those which are developed more slowly, and are the consequences of chronic inflammation, or the existence of prolonged irritation in the urethra. The former we may denominate *acute inflammatory*, the latter *chronic spasmodic stricture*.

Acute inflammatory spasmodic strictures mostly attack patients labouring under some disease of the bladder, prostate gland, or the urethra (generally the last), and the disease is more frequently gonorrhœa than any other. The circumstances under which the spasmodic affection is superadded at the original malady are, pretty often, somewhat like the following:—A young man is attacked with gonorrhœa; but, as "he has only a clap," to use the common and foolish language too prevalent with patients, he neither thinks it necessary to lay himself up, or worth his while to obtain regular professional advice, contenting himself with taking some of the common forms of medicine usually prescribed in these cases; and he probably obtains some relief from them.

Yet more or less inflammation of the urethra remains; and the discharge still continues. In this state, either from necessity, or for his own pleasure, he dines with a mixed party of friends and others. He is asked to take wine, and, to elude observation, readily complies. Afterwards, either from a want of firmness, or from a fear of exciting suspicion, he continues during the evening to drink like his neighbours. His whole system becomes heated and excited; and the urethra, already gorged and inflamed, is quickly rendered still more so. In this state, and most likely in the midst of his debauch, he suddenly feels an urgent desire to pass water. Upon his attempting to do so, no sooner does a small quantity of urine (rendered unusually acrid by his potations) pass from the bladder into the inflamed and morbidly sensitive urethra, than he experiences the most intense scalding pain; whilst, simultaneously, violent spasms arise, and the flow of urine ceases; but not so the desire to pass water. On the contrary, every moment that passes renders it more urgent and imperious, compelling him to make the most powerful, although fruitless, straining attempts to expel his urine. At the same time, the violent spasmodic contraction of the muscles surrounding the inflamed urethra, which these attempts occasion, increases both the pain and difficulty. Occasionally these efforts are so far successful, that a small quantity is, as it were, squirted out, without, however, affording him any relief; and, in this deplorable condition he remains, until relieved by nature or art.

In other cases, patients labouring under gonorrhœa use powerful caustic or other astringent injections, with a view to arrest or cut short a threatened attack; and, after using them, the inflammation has been greatly aggravated, and results, similar to those above detailed,

have ensued. Sometimes patients are foolish enough to go out hunting whilst suffering from acute gonorrhœa, thus producing a spasmodic retention of urine.

These are certainly very frequent causes of the form of urinary obstruction, which I have denominated acute spasmodic stricture. But they sometimes arise from other sources, as, for example, from the lodgment of small calculi in the urethra, or from injury inflicted by the unskilled introduction of instruments; and I lately met with a case where the attack arose from excessive self-abuse.

The first violent attack may spontaneously subside, or be relieved by the simple use of hot baths, or fomentations to the parts, or, at all events by the introduction of the catheter. When next the patient has occasion to pass water, after his relief with the catheter, he may be able to do so, although the stream will mostly be of less volume than before the attack; and there will always be felt a certain degree of pain as it passes along the urethra. In some instances the patient is gradually restored to the full power of passing water; in others, after he has passed his water tolerably freely for a time, he will on a sudden, and without any apparent fresh cause, be again attacked with retention. Occasionally, he will, for a succession of days, be seized with a retention of urine once in every twenty-four hours, and, singular to say, always at the same hour. These attacks, after lasting for an hour or two, mostly cease of themselves; sometimes, however, it is necessary, for their relief, to have recourse to the catheter.

A patient, having thus suffered, may become to all appearance tolerably well in a week or two, only experiencing a slight degree of heat and pain as the water passes. After having drunk a few glasses of wine, he is again suddenly attacked by spasms and

retention, especially if he has imbibed too much champagne.

These cases are for the most part those of young men, who seldom have the good sense or the firmness to refrain (at least for the necessary time to effect a complete cure) from hunting, shooting, wine, illicit intercourse with the other sex, and other nearly innumerable modes of indulgence and excitement. The result is, that their urethræ, under the combined effects of disease and imprudent excesses, are kept in a constant state of irritation; and besides being at all times unable to evacuate their urine properly, they are harassed by repeated sudden attacks of more severe spasms, which occasion still greater difficulty in passing water, or even total retention. In addition to these symptoms, they always experience a more frequent than usual, and at times an almost incessant desire to make water.

This prolonged existence of inflammation and irritation in the urethra leads at length to more or less thickening of its coats; and as this occurs, it generally happens that the inflammatory spasmodic attacks become both less frequent and violent; whilst the urine is voided with comparatively little pain, and in a more uniform stream, though in a less volume than natural. This mitigation of the hitherto urgent and painful symptoms too often lulls the patient into a false security. Thus whilst the progress of an ultimately more serious disorder is slowly and imperceptibly going on, he fancies, from the comparative ease and comfort with which he voids his urine, that he has nothing more to fear; that nature is gradually accomplishing his restoration; and, in some cases, if his future mode of life be regular, years may elapse before he is aware of the error into which he has fallen. In this way he is led to think lightly of the formidable disease that has in the mean time been so in-

siduously invading his urethra, in the form of one or more permanent strictures.

The preceding observations will, it is hoped, not only fully illustrate the origin of inflammatory or acute spasmodic stricture, but its progress through its different phases, until it terminates in a permanent contraction of the urethra.

I will now offer a few remarks upon that form of spasmodic stricture I have termed chronic. It often happens under the earlier circumstances mentioned above, that by judicious and prompt treatment, conjoined with care on the part of the patient, the acute inflammation of the urethra, and the retention thereby caused, are in due time removed; and the patient is afterwards hardly sensible of any alteration of the manner of voiding his urine. Nevertheless, if his attention be particularly directed to the point, he will then become sensible that, on the urine passing over certain parts of the urinary canal, there is increased sensation at those parts, with some degree of hesitation, if not positive difficulty, in its further progress.

Sometimes the patient will tell us that he feels the water stopped for a second, and then that something, as he expresses himself, appears suddenly to give way, after which the urine passes freely.

Although these details may serve to illustrate the origin and progress of a vast number of cases, they do not apply to all, perhaps not even to the majority; it being certain that, of the number of individuals who have laboured under gonorrhœa, very many never suffered from attacks of spasmodic retention of urine, as a consequence of the inflammation which always more or less accompanies that disorder. It is true that this disease occasions great pain and scalding as the urine is voided, especially at the commencement of the

attack ; and, in consequence, some degree of involuntary spasmodic contraction occurs. This, added to the diminution in the natural diameter of the urethra, resulting from the swollen state of its vessels, for a time causes the urine to be voided with great pain in a diminished, forked, or interrupted stream. But as the gonorrhœa yields to proper treatment, these symptoms gradually subside, and the patient is not only entirely relieved from his disease, but also from future predisposition to stricture, or other disorder of the urethra.

In other instances (arising chiefly from neglect, but, occasionally, in spite of every care), the diffused inflammation, attendant on the gonorrhœal attack, subsides into a species of chronic inflammation at one or more points of the canal ; and, when the urine passes over them, there results (in proportion to their morbid sensibility) more or less spasmodic arrest of the expulsion of the urine, as explained in my remarks on inflammatory spasmodic stricture. Likewise, if an instrument be introduced along the urethra of a patient in this state, upon the point of it reaching those portions that are the seat of the chronic inflammation, the patient will complain that it causes him extreme pain : whilst, at the same time, the surgeon feels the instrument spasmodically grasped and its progress stopped. Occasionally, after a few moments pressure on the part with the instrument, the spasm will yield, and the instrument may then be passed on to the bladder. But, in severe cases, its progress is altogether arrested, and it is only after long and proper treatment that the spasmodic impediment is overcome.

In this phase of his disease the patient no longer suffers acutely ; indeed, he can hardly be said to suffer at all. The sensations he experiences have merely a sort of vague character of uneasiness—a kind of titillation or itchiness in portions of the canal, and these not

always perceptible. Even when they are perceptible, and whilst they serve to indicate to the experienced surgeon that the urethra is not in its normal state, they are not likely to produce any serious impression on the patient's mind. At times, however, he will most probably have some sensation of smarting and pain when he passes water, especially after drinking, or after any excess. On these occasions, his attention will most likely be attracted to the way in which he passes his water. He will hardly fail to remark that the stream is less than it formerly was; that a longer time is occupied, and greater exertion required, to empty the bladder. He will also observe that, after he has ceased to pass water, his linen is wetted by a few drops of urine which have dribbled from the urethra. He will find that, conjoined to these symptoms, there is a slight mucous discharge. This discharge is very apt, after the patient has been drinking freely, or indulging in sexual intercourse, to assume the yellow appearance of gonorrhœal matter, thereby occasioning unfounded alarm, and sometimes unjust suspicions. The previous symptoms, and its appearing almost immediately after connection, will enable us to distinguish one from the other.

This condition of the urethra may exist for months, and even years, without producing any further or more urgent symptoms, especially if the patient be of regular and moderate habits of living, or is induced to be so by his medical adviser. On the other hand, I have met with cases in which, not only spasmodic, but permanent strictures, have been completely developed in a short space of time; whilst, again, cases occur where the disease has remained in an incipient state with scarcely any inconvenience to the patient, or any increase for years,—in fact, until the application of some fresh irritant, such as unnecessary interference with instruments

has excited it into action. But still it is not uncommon to see this prolonged morbid condition of the urethra terminate in the gradual and imperceptible merging of the chronic spasmodic stricture into a permanent one.

It is hoped that the foregoing observations will enable the reader duly to estimate the various exciting causes of spasmodic strictures, also the symptoms, progress, and consequences produced in the urethra, up to a certain point, by an attack of inflammation, no matter what may be the cause, and take a lesson therefrom.

CHAPTER VI.

ON PERMANENT STRICTURES.

PERMANENT, like spasmodic, strictures, are either the consequences of a previous inflammation, or of the existence of a morbid sensibility, in the urethra. But whilst the obstructions occasioned by the latter may be only temporary, and are, at least, always unaccompanied by any organic alteration, the former, as being permanent, necessarily involve, more or less, organic disease.

We have seen, from the preceding observations, that various causes are sufficient to excite in the urethra an attack of acute inflammation, which, although subdued in its original intensity, has from different circumstances, not been completely removed, but on the contrary, kept up, or has degenerated into a chronic affection, or, at all events, has left the urethra in a preternatural state of sensibility.

Now the effect of the existence of long continued inflammation, or irritation, in any part of the body, is mostly to cause an alteration in its structure. In like manner, when the urethra is exposed to violent, acute, or long continued chronic inflammation or irritation, it loses its fine elastic character, becomes gradually unyielding,

thick, indurated (sometimes even cartilaginous), at the seat or seats of the attack. Whilst the amount of pain and difficulty, in the expulsion of the urine, thereby occasioned, is in proportion to the extent and number of the contractions thus formed.

Further, whilst the existence of even the slightest permanent obstruction to the expulsion of the urine could hardly fail, did it exist alone, to excite considerable derangement in the urethra, it becomes still more injurious when it is superadded to other maladies. When the urethra is the seat of inflammation and morbid sensibility, or of permanent stricture, separately or conjointly, the natural and vital act of micturition then becomes a proportionately prolific source of increased suffering and disease. In the first place, the acrid urine in its passage acts on the now too susceptible surface of the urethra as a powerful irritant. And, in the second, the increased exertion, required on the part of the bladder and of the muscles, employed in the evacuation of the urine, to force it through the stricture, occasions the water to be propelled with additional power against the unyielding and morbidly sensitive portion of the urethra. Thus more irritation ensues; whilst the result of this continued undue excitement and straining is to increase the stricture both in extent and density.

In the foregoing account of the origin of spasmodic and permanent strictures, I gave a description of the circumstances under which these disorders for the most part arise. But I must not omit to state that, in some instances, nearly all the primary symptoms, above detailed, are altogether wanting. Thus, I sometimes have met with patients suffering from severe permanent stricture, who scarcely ever had any symptoms indicative of its approach. In such cases the patients are mostly married men of regular habits, and between the ages of thirty-

five and fifty. In answer to my inquiries, they generally tell me that, when young men, they suffered more or less from attacks of gonorrhœa, but being cured, they continued apparently well for years; that they subsequently married; and that it was only within such and such a time they first became conscious of any difficulty in voiding urine. They further tell me that they were at length fully aware they did not make water in a natural manner; but, being wholly unable to account for the difficulty, they neglected to obtain surgical advice, under the impression that it arose from some slight, temporary, and unimportant cause, and would spontaneously cease, as it seemed to them to have arisen. It was only after finding the difficulty increase, that they became undeceived.

It only remains to be observed, that it is an indisputable fact that permanent stricture, however slight, can never of itself disappear. It may remain stationary, or unless promptly and, above all, skilfully treated, it may pursue an onward course, not merely feeding itself, but causing an accumulation of grave diseases in other parts of the urinary and genital organs.

With respect to the symptoms of permanent stricture, they naturally vary according to the extent of the contraction. They are also influenced by the amount of spasmodic action or irritability that exists in the urethra, either as a permanent effect of the disorder, or as the occasional result of some temporary exciting cause. When, also, after an attack of acute inflammation, producing spasmodic coarctations of the urethra, coagulable lymph is at once deposited and rapidly deposited and rapidly organised (which sometimes occurs), then the symptoms will be more immediately developed, and, from their commencement more strongly marked. But when (as in the majority of instances) the disease arises from the existence of a subacute inflammation in

the urethra (as already explained), the earlier symptoms are rarely so defined as to attract the patient's notice; although it is obvious that from the very first commencement of the formation of permanent stricture the stream of urine must have diminished.

Nevertheless, this diminution is often so slight as, in the first instance, to escape notice; whilst the future contraction so slowly increases, and the stream of urine at the same time so gradually lessens, that its alteration is nearly imperceptible. Thus the patient slowly and insensibly loses all recollection of the natural size of the stream of water, and it is only when the stricture is removed that he fully estimates the diminution it had occasioned.

It may, then, be stated (bearing in mind the fact I have already mentioned, that as induration succeeds, or is superadded to the existing inflammatory or chronic irritation, the more painful and urgent spasmodic symptoms, which previously harassed the patient, in a great measure subside) that the earlier symptoms of permanent strictures do not amount to more than trifling sensations of uneasiness in voiding urine, or to a kind of tingling heat and itching feeling. There is mostly, also, a slight mucous discharge from the urethra, which either incrusts its external orifice, or, if it increase in quantity, stains the linen with a gummy colourless mark. These symptoms sometimes remain stationary for an indefinite period, and sometimes disappear and recur at intervals. Any irregularity in diet, any excess in drinking, in coition, or, indeed, any cause of super-excitement, reproduces or increases them. As the symptoms re-appear or become permanent, more or less pain is felt in the urethra, especially in the region of the stricture, at the moment of passing water and for some time after; The mucous discharge (when it exists) is

increased in quantity, and the stain it leaves upon the linen assumes a slight yellow tinge. The stream of urine loses its rounded form, becomes flattened, forked, or twisted; and after the act of micturition is apparently finished, a few drops of water dribble from the canal; the desire to pass water becomes more frequent, and now again indications of increased sensibility, of renewed inflammatory actions and spasms appear. These, in every way augment the disease, add to the patient's suffering, and if they fail to excite notice, and the consequent adoption of surgical treatment, they are all aggravated in proportion to the neglect with which they are treated.

The pain now experienced, is not only more prolonged, but becomes more acute; the discharge, too, is more abundant and acrid: the stream of urine is much lessened in diameter; greater muscular exertion is necessary for its expulsion; a longer time is required to empty the bladder of its contents; the desire to pass water becomes more frequent; the power of retention, if not in a situation to evacuate it the moment the desire to do so is felt, is nearly lost, and, under any circumstances, can only be exercised at the expense of much pain. Moreover, the external orifice of the urethra and the glans penis become red and inflamed. When the patient passes water, he is often observed to stretch the penis forwards to assist the escape of the urine, and this more especially at the commencement and termination of the act. Should he still foolishly neglect obtaining the necessary surgical assistance, the stricture continues its onward course, embittering every moment of his life, for he is harassed, day and night, by an almost incessant and agonising desire to pass water; whilst the quantity he voids at each time is exceedingly small, and causes the most intense scalding pain. The bladder is never

emptied, and if he expel his urine in a stream it is scarcely broader than a straw, and it frequently only passes in drops.

The existence of these symptoms (unless the patient be advanced in life, and approaching that period when prostatic diseases mostly develope themselves) cannot fail to indicate the disorder with which we have to contend; whilst, even in the exceptional case I have just stated, it requires only a very slight inquiry to set the question at rest. For instance, if the patient is advanced in years, and tell us that all through life, and up to a recent period, he expelled his urine naturally, we may then feel assured that the cause of the difficulty he experiences arises from prostatic disease, and not from stricture.

The extent, thickness, and consistency of permanent strictures vary considerably. They range through all the intermediate grades between the most simple (the thread-like) and those occupying at intervals nearly an inch of the urethra, to great density, horny hardness, of such an extent, as to involve not only the urethral coats, but the surrounding tissues, and thus frequently occasioning so considerable an enlargement in the perineum, as to be perceptible both to the eye and touch.

Permanent strictures are usually divided into three kinds, viz.:—the thread-like, the broad or ribbon, and the irregular. The first is the least severe form of the disease. The second, as its name implies, is of greater extent than the first, either from the first attack of inflammation being more acute and extensive, or from its gradual increase. The irregular stricture, like the preceding ones, is the result of attacks of inflammation, which, instead of producing, as in the broad, a uniform contraction, occasions irregular indurations of the

urethra, with slight intervening spaces free from contraction, or being only slightly contracted.

In addition to these divisions permanent strictures are subdivided by some authors into such as are permeable to instruments and such as are impermeable; also into the inflammatory, the irritable, and the bleeding. But as there are really very few severe permanent strictures that do not present some or all of those symptoms at certain stages of their progress, I do not think it necessary to amplify and complicate the subject by making so many divisions, as the classification of these merely prominent symptoms would require if treated separately.

If urine passes through a stricture, as is invariably the case, although it may only dribble, it proves pretty conclusively that a canal does exist, so that the "impermeable stricture of many authors" exists only to those who in their attempts ignominiously fail to pass an instrument, to be followed by a success in lighter hands. The proof of what I say will at once strike my readers when they call to mind their student days, how on many occasions where they have seen one surgeon fail in passing a stricture, after having vainly tried from a No. 12 to the finest possible instrument, and made the poor wretch bleed like a pig, he will perhaps say to a colleague, "will *you* try, A or B," and no sooner does A or B make a trial than he succeeds with almost apparent ease in passing a No. 1 or 2. The proof again is still more striking with the house surgeon. Many and many a time have I seen failures from that quarter, where, upon the arrival of the surgeon, the patient has been relieved.

The terms permeable and impermeable as applied to stricture, I take, are misapplied, if, with all skill and patience, no instrument can be made to pass down the

urethra, the cause being that there is no exit even to dribbling urine, and consequently no passage. The canal is obliterated and not strictured. I consider such terms as conquerable or unconquerable, vincible or invincible, surmountable or insurmountable would be more applicable to a veritable stricture.

With respect to the situation of permanent stricture, I simply propose to state that to make fine distinction of exact spots where stricture is to be found is absurd. Sir Henry Thompson says there is some discrepancy in the statements of authors. I have carefully read most of the old authors on the subject, and if flat contradiction is discrepancy Sir Henry is certainly correct. It is a mistake to suppose that fine divisions as to locality can be made. Old authors wanted to make the situation as clear as ditch water, to the student, the world, or whom they wrote for, whereas the true situation of stricture is as clear as crystal, depending simply on the cause. If traumatic in origin it can occur anywhere, as we all know that wherever cicatricial tissue can insinuate itself it gives rise to contraction, and the everyday stricture we meet with, viz., the narrowing that follows inflammatory matter after besieging one particular place, varies in position, in the spongy portion from the external meatus to the sinus of the bulb, and may be of all kinds or sizes, from the merest constriction to an inch or more.

The most common position is just anterior to the triangular ligament, and when on dissection a stricture has been found to exist in the membranous portion it has been due to injury caused by constant bougieing and catheterism, first by one inexperienced hand then another, until the membranous urethra has become worked into the spongy portion by constant probing and wounding. Where does all the blood come from we

habitually see in attempts to pass these subpubic strictures?

Take one inexperienced to the use of the catheter and having not the remotest idea of the anatomy of the perineum, watch him pass a catheter, and see how easily it glides down to the canal, but there comes at last a moment when its point becomes arrested. Is it difficult to imagine the cause of this sudden arrest? (See fig. 5, opposite page 55.) Natural obstructions, 4, 5, and 6, sinus of bulb, entrance to membranous portion and mouth of prostate. It is here that all the difficulty is experienced, and according to the poking and raking that these parts have undergone by one or more hands, so accordingly do we find (on the presumption by those exact gentlemen of locality) whether it be a stricture *exactly* at the

Junction of the spongy with the membranous portion;
At the beginning of the bulb;
Anterior portion only of membranous portion;
Posterior portion only of membranous portion; or,
Directly in prostatic portion, &c., &c.

I do not believe a stricture in its true sense has ever been found immediately between the layers of the triangular ligament or deep fascia, and certainly not in the prostatic portion. Strictures occur only in the true penile or spongy portion of penis. Inflammation and induration may spread by continuity to the membranous portion or any part of the urethra, more especially when aided by the abuse of instruments. As to the commonest situation of stricture true, about the bulbous portion of the urethra is undoubtedly the part most affected, the result, in my humble opinion of—

1. Ignorant and unskilful use of instruments to overcome natural obstructions.

2. The form and position of the canal being at that point so fashioned as to harbour inflammatory matter should the canal be in an irritated condition. (See fig. 28.)

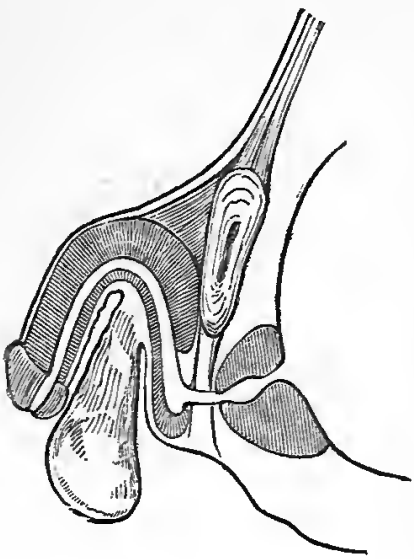


Fig. 28.

In the preceding observations I have adverted to the most usual forms of permanent stricture; but there remains a species which demands our special attention, first, in consequence of its serious and eminently dangerous complications; secondly, because of its deviation, at its origin, from the ordinary symptoms of stricture; and, lastly, because the treatment, it requires at the commencement of the attack, differs considerably from that of other varieties of the disease: the species I allude to owes its origin to mechanical injuries.

Mechanical injury to the urethra may be inflicted internally or externally. Internal injury can mostly only arise from the unskilful introduction of bougies, which subject I have already noticed. I shall, therefore, confine myself here to external injuries, as an exciting cause of morbid contraction of the urethra.

External injuries may be incurred by falling astride a gate or beam, or in any other way whereby a blow may be struck on the perineum, such as a kick, or by a rider on a horse being thrown suddenly forward on a saddle, and striking the perineum against the pommel.

In some instances, the injury resulting from blows merely amounts to a contusion of the urethra, and the rupture of some of its vessels, but without any evident

injury to the external parts. In others, in addition to the injury sustained by the urethra, the vessels of the external parts are ruptured, thereby occasioning more or less effusion, which, if absorption does not take place, terminates in induration of the perineum, often extending to and involving the urethra.

When the violence has been very great, the urethra is often ruptured; in which case, if the accident is not immediately detected, and means quickly taken to counteract its consequences, when next the patient passes water, extravasation of urine occurs, which at once leads to the formation of abscesses, terminating in fistula in perineo. Should the rupture, however, be slight, perhaps only a trifling infiltration of urine results. In this case the progress and termination of the abscess will be retarded, or it may happen that the effusion of lymph, and its rapid organisation under the influence of adhesive inflammation, will so far repair the mischief, as to prevent any further or continued infiltration of urine; whilst that which escaped, in the first instance, is absorbed, and the patient thereby saved from the more immediate and dangerous consequences attendant on extravasation of urine. However, although he is so far fortunate, yet as the ruptured urethra heals, the cicatrix thereby formed almost invariably becomes an obstruction to the expulsion of the urine, and is more severe, unyielding, and difficult of cure, than most strictures arising from other causes.

An eminent surgeon, speaking of the difficulty of these cases, and having given some directions as to their treatment, says:—

"But it may be that these measures of precaution have not been adopted in the first instance, and that you are not consulted until after the lapse of a considerable

time, when the wound or laceration of the urethra is already healed, leaving the urethra contracted in the situation of the cicatrix. Here you may, perhaps, succeed in gradually dilating the urethra, as where there is an ordinary stricture. But, in a case which I have already mentioned, I have stated that 'this was not accomplished without a great deal of local and constitutional disturbance;' and so it has been in all cases of this kind which have fallen under my observation. Nor will the occurrence of such difficulties be a matter of surprise to anyone who bears in mind that here the object is to dilate not a genuine stricture, but a cicatrix of the urethra; and who has observed how the cicatrix of an old sore leg inflames and cracks when the subjacent muscles begin to increase in bulk from exercise; or how the endeavour to extend forcibly the contraction after an extensive burn produces the same result. It may be that these difficulties are insuperable under the method of treatment by simple dilatation; and, under these circumstances, a small staff having been introduced into the bladder, the cicatrix of the urethra should be divided by an incision from the perineum, a gum catheter being introduced afterwards, and allowed to remain until the wound is healed over it. But even then much remains to be accomplished. The cicatrix has still a greater disposition to contract than an ordinary stricture; the bougie or catheter must be had recourse to almost daily, and the patient must be contented, if he can persevere in the use of instrument of a moderate diameter, as the urethra will invariably resent the attempt to keep it dilated by those of large dimensions." *

The preceding remarks are, I most readily agree

* Brodie's Lectures.

well founded, where the treatment of such cases has, been confined to simple attempts to dilate the contracted part of the urethra ; but, when other means are resorted to, I have no reason to think that these cases are so unyielding as above represented, and that any necessity exists for having recourse to so severe an operation as the one suggested—at all events, until milder methods have failed.

The first and principal symptom, which accompanies a rupture of the urethra from external injury, is the occurrence of more or less hæmorrhage therefrom. But this alone will scarcely afford any clue to determine at the beginning the exact nature or extent of injury the urethra has sustained. Even if the hæmorrhage from the urethra be accompanied, or quickly succeeded by effusion and tumefaction in the perineum, we are scarcely in a better position towards forming a conclusive opinion. For, although these circumstances would very clearly denote that the vessels of the urethra and external parts had experienced considerable and extensive lesion, yet, inasmuch as all these symptoms might arise without any actual rupture of the urethra having occurred, it is almost impossible for anyone, in the first instance, correctly to estimate the extent of injury the urinary canal may have sustained. But if, after exposure of the urethra to any kind of violence, one or both of these symptoms appear, and further (no treatment having in the meantime been adopted), the patient, when he passes water, experiences acute pain in the perineum, with a sensation of scalding and burning in that region as the water passes along the urethra ; if, at the same time, the penis becomes swollen, or in a semi-erect state, these additional symptoms, conjointly with the others, afford a tolerably decisive indication that the urethra has been ruptured. Moreover, if those

are succeeded by increased swelling in the perineum, or contiguous parts, then scarcely a doubt can remain on the subject.

With respect to the treatment of these cases, the future comfort, nay, perhaps, the life of the patient, depends on its being prompt and judicious; for when the urethra has been exposed to external violence, followed by more or less hæmorrhage, it is not the ultimate formation of stricture which is alone to be feared, nor is the hæmorrhage itself the only source of the imminent danger which threatens the patient. The evil to be immediately dreaded is, in truth, neither the hæmorrhage nor the subsequent formation of stricture. The great subject of apprehension is, that, the urethra being ruptured, the urine, when the patient passes water, will escape from the canal, through the laceration, into surrounding tissues, become extravasated, and thus place the patient's life in jeopardy, or at least lay the foundation of great and protracted suffering.

With this awful liability suspended over the patient, superadded to the difficulty of assuredly judging whether the urethra has been ruptured or not, until after the serious consequences of a rupture have commenced, I think that in these cases no one should hesitate, to take at once measures, by the introduction and retention of the catheter, for preventing possible extravasation. The perfect security this treatment will immediately afford the patient against the agonies and dangers resulting from extravasation will amply repay him for any slight and temporary inconvenience he may incur by the retention of the catheter, even though it should ultimately appear that the precaution was unnecessary. If we do not see a patient till some time after the accident, and find that he has passed his urine in the interval, and that no urgent symptoms have followed, we may, in this case,

perhaps, venture on contenting ourselves with watching the case before adopting this treatment. But if symptoms of extravasation already exist, we should not hesitate for a moment to introduce, and retain a catheter.

This being accomplished, the further treatment of the case will resolve itself into that adopted in other cases of extravasation of urine.

CHAPTER VII.

STRICTURE, AND ITS TREATMENT FROM AN EARLY PERIOD.

I DO not intend to enter into a discussion or to analyse all the different methods which have been proposed for the removal of stricture. It would take a volume in itself to give any correct idea of the many expedients for the restoration of the canal to its natural condition that have been attempted. Ideas suggested and practised by one surgeon have been flatly contradicted and put aside by another. In truth the methods proposed and practised during the last three hundred years have varied considerably.

An epitome of the early periods will perhaps not be out of place. I find in 1565 Alexander Trajanus Petronius said:—"That the urethra must be cleaned by a wax candle or some such instrument." * He also says that "gentle corrosives are to be introduced in

* This writer appears to have been a type of his period. We are told by Astruc ("De Morbis Venereis," 4to, Paris, 1738, p. 537) that his writings are tedious and verbose, enough to turn one sick. Foot ("Lues Venerea," p. 295) commits an error when he confuses the little town of Citta Castellana with Castille, consequently makes him to be a Spaniard, not an Italian, and further speaks of his name as *Trojanus*, not *Trajanus*, which of course makes nonsense of his cognomen. Reference to the precise text of Astruc might have saved all this repetition of persistent error. As the writings, so the practice of these early writers. They are, indeed, enough to "turn one sick."

a dry form, or by injection with barley water." This, he states, is an effectual remedy for growths in the urethra.

Here we find at the remote date of 1565, bougies and caustics were not unknown, and, I should add, possibly playing a more prominent part in the manufacture of strictures than at the present day.

Rods of lead were thrust down the passage as thick as the urethra would permit, besmeared with quicksilver ointment, and kept in day and night in order to dilate the stricture.

Wiseman, Serjeant-surgeon to Charles II, divided, he tells us, the urethra in its whole length, but adds, with candour, that the operation was no good. He also employed the bougie and caustic.

It may be interesting to some of my readers to transcribe precisely the account given by Wiseman of a particular case—

"In the Year 1652, at my return to *London* from "the Battel at *Worcefter*, I fomewhile affifted that "moft excellent Chirurgeon the deceafed Mr. *Ed.* "*Molins* in dreffing his Patients; amongft which I "saw his Practice in the moft difficult cafes of this "Difeafe, whereof I fhall give you one of his Opera- "tions.

"An old Fornicator, having been long difeafed "with a Carnofity, which had refifted all endeavours "and in a manner totally fuppreft his Urine, fent for "him; he went, and caufed the Patient to be taken "out of Bed, and placed upon a Table, with his Legs "drawn up, as in the cutting for the Stone; he cut "into the *Urethra* near the neck of the Bladder, it "was hard as a griftle. His knife did not readily "divide it, but fo foon as he had, the Urine gufhed "out, which being difcharged, he put his finger into the "*Urethra*, and afterwards inlarged the incifion upward "more to the *Scrotum*, then dreffed it up with green "Balsam warm, by which in few days it digefted, and "the Patient was relieved: the lips grew alfo daily "fofter, and the wound healed apace, but all this

" while the Urine had no other paffage, the common " *ductus* being fo clofed up by reafon of the Carnofity, " that we could not make any way into it with our " fmalleft Probes or Candles. Upon which confide- " ration it was thought neceffary to keep this opening " in *perinæo* for the difcharge of Urine, and in order " thereto it was dreffed up with a Doffil, an Emplafter, " and Comprefs, which the Patient took off at times " to eafe Nature. But this not fatisfying him, he fre- " quently complained of his unhappy condition; in- " fomuch that Mr. *Ed. Molins* being wearied with " the Patient's folicitation, took me one morning " along with him, where again he placed the Patient " as before, and attempted to make a way from the " *Apex* into the *Urethra*, but it was in vain. Where- " upon he caufed one of his Servants to hold one leg, " and myfelf the other while he took up the Tefticles, " and put the one in my hand, and the other he " placed in the hand of his Servant; then with his " knife divided the *Scrotum* in the middle (we holding " each Tefticle the while in our hands) and cutting " into the *Urethra* flit it the whole length to the " incision *in perinæo*; then with a needle and thread " ftitch'd the skin over the *Urethra*, as also the " *Scrotum*, leaving the Tefticles covered, as before, " and dreffed them with agglutinatives, by which " they were cured in few days: But the Urine " neverthelefs continued to flow by the opening *in* " *perinæo*."

The following paragraph from his work proves surgeons were not ignorant of the cause of stricture even in those days, 1600.

In speaking of "Caruncles" and "Carnosities" (otherwise strictures) he says—

"The cause of them is alfo apparent, that they arife from a gonorrhœa ill-managed."

Neither was force unknown, as will appear by the following—

" Having thus offered to you Internals, we fhall " now proceed to fhew you the way of extirpating

" thefe Caruncles. The methods thereto propofed by " authors are various: I fhall reduce them to two, " viz., the one by Medicaments, the other by mere " force with Wax-candles, probes of Lead, Silver, or " Steel to break them in pieces."

It will be waste of time to enumerate others who attempted the cure of stricture or obstructions in the urethra on the same principles, as little alteration took place for nearly two hundred years. Wax candles, leaden probes, or bougies, and caustics were the chief remedies employed. So practice continued, during which period I find quackery was very prevalent. It commenced in France, and gradually invaded England, and as these quacks made use of caustics in order to effect cures, and naturally alarming results arose therefrom, surgeons of reputation began by decrying the use of it, and banishing it from practice. This disuse began about the year 1740. Savoyard, Le Dran, and Astruc were amongst the first who wrote strongly on the abuse of caustics, and condemned their use.

Then Mr. Sharpe writes, saying, the pain was so excruciating, and perhaps the application so poisonous, that an immediate mortification of the scrotum, penis, and bladder were known to ensue. Pott shared the same opinion on the subject.

Apparently, so far, it does not show that very rapid strides were made in the treatment of stricture in those days.

We may now quote from the great John Hunter. It is exactly one hundred years ago that he published the second edition of his work on "Venereal Disease," in which he treats upon stricture of the urethra. He includes stricture under the following heading—"*Of diseases supposed to arise in consequence of venereal inflammation in the urethra of men.*" He speaks first of the

bougie, and says that perhaps one of the greatest improvements in surgery is the bougie. He can remember, he states, that when he was attending in 1750 the first hospitals in the City the common bougies in use were either a piece of lead or a small wax candle; the better bougie was, however, known in 1750, but preference was given to the others.

Even in those days they did not show eagerness to lay aside the old things they had been educated with. Daran, he states, was the first to improve the bougie and bring it into general use, and when Daran published his observations on the bougie, every surgeon employed himself in endeavouring to find out its composition, each one conceiving he had succeeded. "It never occurred to them," says Hunter, "that any extraneous body of the same shape and consistence would do the same thing."

John Hunter advocated the use of caustic under the idea that it was a new line of treatment. This is somewhat surprising. How came a man like Hunter to pass over the writings of presumably the great authorities of those days—Savoyard, Le Dran, Astruc, for example? The treatment, however, which he recommends, and which he prefers, is gradual dilatation in any case where a bougie of no matter what size can be passed through the stricture, not forgetting cautions against force or irritation of any kind. He alludes to no other modes of treatment. I see he acknowledges in a foot-note that having lately looked over some authors on stricture, he discovered that the originality of the caustic treatment was not due to him. He now only advocated the use of escharotics where success did not attend the mild treatment of gentle dilatation with the bougie. He never once split up the urethra by the employment of force.

The next surgeon I shall speak of is Sir Everard Home.

He follows almost in the footsteps of Hunter, endeavouring, however, in a very poor manner to strike out a new line of treatment.

He says—"It has hitherto been thought advisable to have recourse to caustics only where a bougie cannot be passed through a stricture, but in all other cases to attempt the cure by dilatation." After discussing the advantages and disadvantages attending the use of the bougie, he goes on to recommend the use of caustic, giving his reasons for preferring it in many cases to the bougie, both as being less distressing in the application and more permanent in its beneficial effects.

[I wonder if the application by his hands was altered in anyway, and so made beneficial ?]

Sir Charles Bell says—"The authority of a name has long served in the place of that rigid examination which practical matters require." [This, as I have stated, is a fault even of to-day.]

He says there has been a great deal of theoretical writing on stricture. He brings forth numerous instances of wrong practice and fatal errors, and in a collection of specimens he possessed, the results of malpractice, he arranged that if anyone of them might bring about an inquiry into the conduct of the surgeon, through faults, glaring and evident in any preparation, no name or circumstance in connection therewith was mentioned, not even in his private notes. Pleasant times indeed, those to exist in. However, to pass on to his methods of cure, which were again bougie and caustics. In the early part of his life he used kali purum, but after some experience he found lunar caustic more permanent and beneficial in its effects.

In a chapter on forcing stricture in cases where

immediate relief is called for, he says—"Practice, much experience, and an acquaintance with the patient's constitution, can alone enable the surgeon to judge of the propriety of forcing a stricture, the nature also of which must be taken into consideration, if small and never before operated upon, perhaps then force, if old and callous and had one hundred and five applications of caustic [this is a case he cites] then do not force." In any case, he says, it is a perilous question to enter upon, especially when he considers the disposition of the younger portion of the profession to do things by force instead of by art. He is fearful of affording a precedent. Notwithstanding that he shared to a certain extent the erroneous practices of centuries before him, the indisputable fact remains that his works are those of the most able and accomplished surgeon on record.

Now follows a Mr. Phillips, with a revolution, holding forth to the world his method of applying caustic in combination with a slight incision of the stricture within the urethra. What next?

Then Sir Benjamin Brodie appears upon the scene. He brings us nothing new. Dilatation and caustics are his treatments. The latter he recommends, especially, he says, in those cases of spasmodic stricture where two or three applications of caustic may be sufficient to relieve all urgent symptoms. This, I think, is sublime. Nevertheless he does not resort to its use because he objects to a few trifling troubles that it induces. For example—

1. It induces spasm as much as it relieves it.
2. Hæmorrhage caused by it is more dangerous and of more frequent occurrence.
3. Where there has been before no disposition to fever and rigors, caustic induces them.

4. Unless used with caution, caustic may induce inflammation and abscess.

These, he says, are the principal evils that follow the application of caustic.

He also says—"This mode of treatment was first proposed and recommended by Hunter."

How comes it that Sir Benjamin overlooked the fact that it was in use in 1600? He mentions one or two cutting operations. So ends Sir Benjamin Brodie's treatments, presented to us only forty-five years ago, with absolutely no original ideas.

Mr. Wade is the next gentleman I propose to mention. In 1849, which, as time flies, is no distant date, he writes—"As there still exists more or less prejudice against the employment of caustic of any kind for strictures of the urethra, one principal object of my publication is to excite attention to the great advantage to be derived from potassa fusa in their removal." Now he begins his work by definitely stating that his observations fully confirm the opinions of those who regard inflammation as the cause of permanent stricture of the urethra. This, as we shall see, is not surprising. He then follows on with a mass of discussions, summing up thus—"The conclusion naturally follows that whatever causes inflammation of the urethra may eventually give rise to stricture." Consequently he employs a caustic. The following he recommends as a class of strictures in which his caustic may be used with advantage—

1. Hard fibro-cartilaginous.
2. Hard strictures of long standing.
3. Irritable strictures.

4. Spasmodic strictures not arising from acute inflammation.
5. Strictures which have a marked disposition to contraction.

This recommendation is only a matter of thirty-five years ago. If there be many who have carried out his suggestions it certainly will be a long time before his name will be forgotten.

One more addition do I intend to make to this UNCONSCIOUS MANUFACTURING STRICTURE COMPANY, and I hope with this last addition I may add the word LIMITED, for the sake of poor suffering humanity, injured only by the results of these misdirected treatments.

The surgeon whose method I am about to speak of is still amongst us, and his scheme is known by the title of "Holt's Treatment Immediate."

Now one cause of permanent stricture of the urethra has been, is, and will ever be, recognised, namely mechanical injury, producing rupture of the urethra from within or without, and subsequent cicatrisation and narrowing of the canal.

This then, in short, is Mr. Holt's treatment immediate of stricture, a forcible and sudden rupture and tearing asunder of the urethra from within. A deliberate addition of a traumatic injury to an already narrowed canal.

The asserted impunity with which strictures already tortuous and cartilaginous can be forcibly torn and split open is contrary to the experience of authors and observers on the subject centuries ago. There always have been since the world began, individuals, professional and non-professional, inexperienced and credulous, ready to fall victims to some new theory, just as I have shown there have been surgeons and patients who fell into the snares

set by the exalted views of the many authors on the efficiency of caustics. Mark what these poor sufferers have endured, and are even enduring to this day, from the effect of the barbarous practices of centuries.

This operation proposed and practised by Mr. Holt, and possibly by some of his followers, is in my opinion worse by far a thousand times than all the caustics.

Take an ordinary half or three-quarters of an inch cartilaginous stricture, Mr. Holt's instrument is passed through it (the instrument resembles an ordinary metallic bougie, possibly the size of a No. 4). Every surgeon, I suppose, knows it, so I shall not give an elaborate description of it, beyond stating that it consists of two grooved blades with a guiding rod down the centre, on which is placed a No. 10 or 12 instrument or tube, and is then passed quickly down the canal, forcibly rupturing and splitting asunder whatever bars its progress. The stricture is then supposed to be split open. Why do I say supposed? Anyone having witnessed the operation would have no reason to suppose the stricture was not split open. What I intend to convey to my readers is that the urethra, both anteriorily and posteriorly, to the stricture, and the soft tissues surrounding the stricture, must have suffered likewise, it being impossible to confine the splitting only to the stricture, so that when the day of healing arrives we must necessarily find more of that treacherous insiduous cicatricial tissue.

A passage from Sir Henry Thompson—

"I cannot say the results warrant a recommendation of the practice. The immediate consequences are sometimes serious, the remote ones are often disappointing. The recontraction which sometimes follows is considerable, and appears after only a brief interval of improve-

ment. In applying force in the manner described, a rent takes place in the situation of the stricture, and it is certain that this must occur on that side of the urethra which offers least resistance, that is the more healthy side, the least affected by the fibrous elements of the stricture; hence no division of that tissue is made, and the new rent is probably often followed by a new cicatrix, and the subsequent condition will at no distant period be notably worse than at first."

What Sir Henry's opinion is upon the great force-splitting treatment, although expressed in the mildest and kindest manner, is obvious. Let us hope the operation is never practised in the present day.

A short passage from Mr. Bryant, quoting Holt—"A tube is quickly passed, and thus ruptures or splits the obstruction. The stricture having been split, the dilator should be rotated to still further separate the sides of the rent, and then be withdrawn. The success that Mr. Holt boasts of has not been recorded by other surgeons. Indeed, there is reason to believe that after Holt's method an early relapse is more common than after other methods, and that bad and even fatal effects are more common after the splitting operation."

I shall delay no longer the attention of my readers on the authors of the past, and their misdirected treatments, unconsciously laying the foundation of stricture, which time alone can destroy.

One name of note, it may perhaps be suggested, I have overlooked in speaking of the authors of the past; ABERNETHY is the name I refer to. I have, however, not forgotten him. It was the perusal of his valuable lectures, that excited in me the idea of placing my views upon paper, finding that my experience of stricture agreed so much with his.

Abernethy begins by stating that "gonorrhœa if improperly treated, lays the foundation for stricture. [This, I presume, is applicable to any inflammation of the urethra.] The whole of the urethra is so contractile and irritable that strictures are likely to occur in any part of it. It very often happens that there is a sort of spasmodic action of the urethra excited, and a temporary retention of urine is the consequence. If this should happen some little time after a man has had a clap, he goes in a great fright to a surgeon, and he proceeds to pass a bougie, but he finds that he can get but a little way into the urethra. The patient is informed he has a stricture. The irritation subsides, and the patient makes water as well as before. It has often happened that a patient has gone to some surgeon in the country, and he has done what I tell you. The patient is convinced he has a stricture, and a bougie is passed, perhaps every day, until the urethra is made excessively irritable; indeed sometimes they come to London for further advice, and how they stumble upon me I cannot tell. Certain it is they do so. A man comes to me with a very long face, and says—

"'I am very bad, indeed, sir.'

"'What is the matter?'

"'Oh, sir, I have such a stricture that I fear I shall never get rid of. I can only make water in a very small stream.'

"Well, I hear the patient's history of the case, and I find out the bougie has been passed much too often, and that the evil is owing to an irritable state of the urethra. I do not under these circumstances set about passing a bougie, but I tell them to bathe the perineum with tepid water, to take some medicine to open their bowels and keep them regular, to attend to their diet, take no spirits, and so on, keep themselves quiet, and call upon

me in a week. The truth is, some persons never call upon me again, they find they are so much better, and make water so well, and that they will put off the evil day, as they think, for they have suffered so much in having a bougie passed they are afraid of it. Well, those who do return come, saying they are very much better, but they should like to have a bougie passed.

"'Well, to satisfy you I will pass a bougie. Now what size would you like me to pass?"

"And I show them a bundle, and let them take their choice. They will be sure to choose one of the smallest and say—

"'Mr. —— could only pass one of that size, sir.'

"If I take up one twice the size, and ask if I shall try that—

"'Oh, Lord, sir! You frighten me. You could not, I am sure.'

"'We will try it, if you please.'

"It goes into the bladder without difficulty, and they are perfectly astonished.

"If this irritation becomes established in any one part of the canal it lays the foundation for a stricture. The irritability being established, a kind of inflammatory action attends it, and there is a thickening of the membrane of the urethra, causing a diminution of the calibre of the canal, and producing a permanent stricture."

He states, "every young man ought to accustom himself to the passing of bougies, for I can assure you that there is a great reputation either won or lost according to the degree of skill which a man possesses in this respect."

In his treatment he states, most rightly, the stricture should have a medical and surgical treatment, and I know that the medical treatment is of great importance.

"After the medicinal treatment use your bougies with care and gentleness. Pass them, he says, in the most careful way one may, irritation to some extent will be excited, and never attempt to pass another until you have soothed the urethra."

"THE REASON WHY strictures get so bad as they some times do, is the following—

"A man who has an irritable urethra or a slight stricture applies to a surgeon, he passes a bougie roughly, brings on retention of urine. After that trouble is surmounted, the man gets a little better for a time, can make water better, but the complaint returns. The patient has such a horror of the bougie that he keeps himself away from the surgeon until the complaint gets very bad indeed (then possibly the treatment adopted makes it worse).

"I say that if a bougie be passed ever so gently and withdrawn as gently, it will produce an increase of irritation for a time.

"What do we do when we have an inflamed eye to treat? First subdue the inflammatory action and then wash the eye with an eye water. You are not to repeat the stimulus too much, if you do, you will cause an increased irritation. As much harm as good is often done by bougies being too frequently passed. I set it down as a rule to pass a bougie no more than once a week. It produces perfect astonishment in the minds of some persons to find a stricture subside under the use of such apparently trivial measures.

"This is the practice I should recommend; first soothe and allay the irritability of the urethra, and then adopt the use of bougies, upon the principle of treating a morbidly sensible surface, and which I have termed the surgery of susceptible surfaces."

This is an epitome of a lecture he delivered in 1827.

If strictures or diseases of the urethra had been treated upon his views from that date we should not see some of the appalling results that shock us nowadays. But, as Sir Charles Bell said, "The practice of surgeons has been marked with all kinds of violence, an indifference about the simple cure of diseases, a passion for operations, and all the excesses and horrors of surgery."

The truth indeed of those words must strike very hard home to many.

Bell and Abernethy certainly deserve the public thanks for first endeavouring to infuse into the minds of surgeons the rational mode of treating strictures.

It is upon Abernethy's system that I treat strictures, and should propose and advise every surgeon and practitioner to follow in his footsteps. My chapter on catheterism will, I trust, prove of service to a few, and assist that few to follow the more rational treatment of stricture, and, above all, prevent the formation of true stricture of the urethra, and so eradicate to a great degree those distressing forms of stricture we are always reading and hearing of. In my experience I have always found the tortuous cartilaginous stricture in patients who have suffered for years and lived, and existed in the atmosphere of surgeons and their various modes of treatment.

The so-called thread-like and cord-like strictures, mere constrictions, which permit the passage of instruments with comparative ease, are those which have had little or no treatment, and which if left alone, and treated rather more medicinally than mechanically, would in all probability remain *in statu quo*, causing little or no trouble for very many years, and perhaps in a number of cases no further trouble. Put off operative interference as long as you can, and even then

as long as one can introduce an instrument with comparative ease, be not persuaded into employing other means. Even to this very day surgeons seem impressed with the idea they must do something, instead of ascertaining the real nature of the disease, and studying the methods which ought at an early period to be adopted in order to prevent the urethra from assuming that state which will necessitate the use of instruments of one kind or another for its dispersal.

Spasmodic stricture, although not a stricture in the true acceptation of the word, may exist without our being able to assign any certain cause for its presence. We may perhaps find the patient has had an attack of gonorrhœa, or is a heavy drinker, who has exceeded in sexual intercourse, or practised self abuse.

Permanent stricture may exist in consequence of a long continued spasmodic stricture (otherwise irritable urethra due to causes just mentioned) causing a deposition of inflammatory matter at a certain spot, and consequent formation of new tissue, narrowing and contraction, and by far the greatest inducement is the rude manipulation of urethral instruments by unprincipled charlatans, who bougie those who are suffering from nothing more than imaginary strictures.

CHAPTER VIII.

TREATMENT OF INFLAMED URETHRA AND SPASMODIC STRICTURE.

Now, if stricture of the urethra is due to the consequences of inflammatory products, or to cicatrisation, the results of an injury, the natural inference is that the treatment must be conducted on opposite lines as far as practicable. In the course of treatment, suppress, subdue, or prevent inflammation and avoid injury.

The former may be effected by antiphlogistic measures; the latter by the skilful use of instruments, more especially where the difficulty arises in the first introduction of the catheter.

I propose to offer no other treatment of stricture than that by dilatation, by which I think I may confidently assert more strictures have been cured, and alleviated than by anyone of the many numerous methods practised and advocated.

I consider this to be the most rational method, and unless driven to use other means in rare and severe traumatic cases, I would advise and employ no other. A stricture when once conquered, and the patient sent away, and dismissed cured, the permanency of the restored normal state of the canal must rest with the patient. Neglect will on his

part most assuredly reinduce it, but careful attention to diet, and an occasional visit to his surgeon will equally most assuredly prevent its return. The same precisely may be said of cutting operations, internal urethrotomy, for example, but there are immediate dangers attendant upon those operations which we never meet with in dilatation. Strictures, I have above stated, may return after treatment by dilatation, but the same simple treatment will again restore the urethra to its normal dimensions. The same also with cutting operations. The stricture may and does return, and cases are on record where an operation has been repeated several times. Where one method is simple, and others are dangerous, and the after treatment the same, the natural inclination I should say should be towards the simpler operation. The dynamite treatment (forcible bursting of the canal) needs only to be mentioned to be at once condemned. We will now consider the treatment of the inflamed urethra and spasmodic stricture.

The treatment of acute or inflammatory spasmodic stricture, or acute inflammatory condition of the urethra may be stated in two words:—Strictly antiphlogistic.

In a preceding chapter, I defined spasmodic stricture to be the effect of the existence of inflammation or morbid sensibility in the urethra producing a deranged action of the muscles employed in the expulsion of the urine. It is therefore obvious, in order to effect a cure, we must remove the morbid sensibility that creates the spasmodic derangements. To effect this, we administer aperients, followed by opiates, warm baths, application of leeches, spare diet, emollient drinks. In short, the treatment should be strictly antiphlogistic. A surgeon being called to a case, there may be urgent symptoms

that call for immediate action, such as partial or total retention of urine, what should one do? Personally I give at once to the patient a draught composed of liq. opii. sed. ℥xxx. I then attempt to pass a full sized silver instrument, failing which I take a soft gum catheter, No. 8, made on the principle recommended in the Chapter on Catheterism, and proceed to pass it, taking plenty of time. Should the whole catheter pass, so much the better. If not, I withdraw the body and continue with the inner smaller catheter. But in nearly all cases a No. 8 with care, will pass into the bladder.

However, if one fails at first with the catheter, a good hot bath is the next remedy to employ, as hot as the patient can possibly stand, and remembering that a dose of opium has been administered, the patient will in all probability be relieved. Should, however, both the bath and opium have failed, I next administer a warm water and soap enema, taking care to inject the fluid pretty high up into the rectum, this often proves successful, as when the bowels act, the urine flows as it were by sympathy. Supposing still the retention has not been relieved, although several hours have elapsed. What next is to be done? Have recourse once more to the catheter; this time success will doubtless attend the operation, if not, administer another ℥xxx of liq. opii. sed., make the patient comfortable in bed, and let him rest for two or three hours after, during which period he may be relieved. If, however, such has not been the case, place the patient carefully under chloroform, and again try the catheter. This time success should attend the operation.

It is always best to defer the administration of the chloroform till the very last, as one is never certain which of the simpler means will relieve the patient.

One thing remains now for us; should the chloroform

prove unsuccessful, puncture the bladder above the pubes which operation will be found described further on. Happily, however, having recourse to operative interference is rare indeed.

The after treatment of these cases resolves itself into the removal of the source that supplies the inflammation, be it gonorrhœa, irritable urethra, excess in drink, excess in sexual intercourse; self-abuse, the cause must be removed before the cure can be effected, otherwise the foundations of organic strictures will be laid.

Speaking of the cause of inflammation, I would like here to draw attention to one very general source from which spring many troubles, such as vesical irritation, stricture, retention, self-abuse due to constant erections, warts, &c., &c., I allude to the elongated prepuce and adherent glans. I am not prepared to state what per centage of cases, I am in the habit of treating, or that I have seen in connection with the genito-urinary tract simulating diseases, solely through this lengthened prepuce and ignorant uncleanlinesss. Constantly I see young gentlemen 18 to 25 years of age, who have never had their glans uncovered. In young children this is a cause of retention, as also in the adult in connection with gonorrhœa and a highly inflamed and tight prepuce.

Figures 29 and 30 represent my idea of a healthy and unhealthy penis. Those who may be afflicted with a penis like Fig. 30 are never clean, wash as often as they like. A few hours afterwards a film of nasty smelling matter (*smegma*) is deposited round the glans, and if left for a week it becomes disgusting. It is this class of sufferers that are constantly deceived by the quack, the deluded patient imagining he is suffering from spermatorrhœa. The treatment here is obvious, remove the cause either by circumcision, or if possible by astringent lotions,

giving instructions for the foreskin to be kept back. Spasmodic stricture having led me to speak of retention,

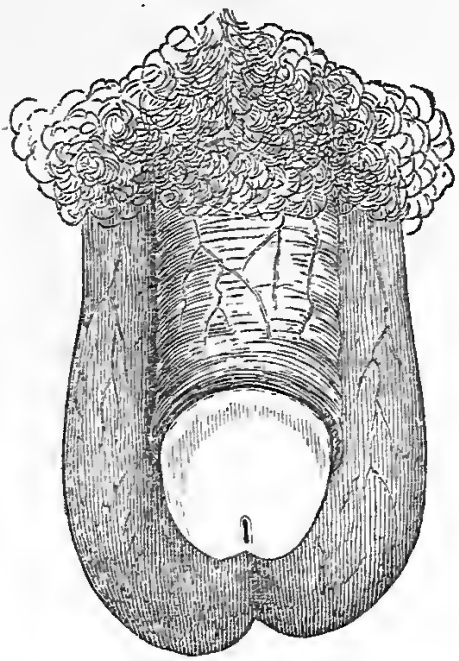


Fig. 29.

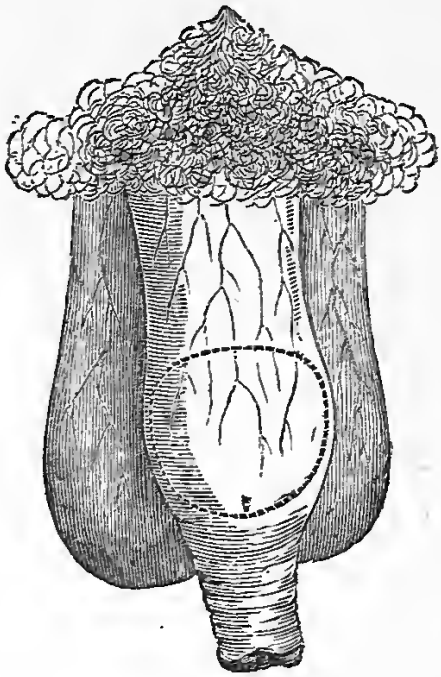


Fig. 30.

I think I may as well finish the subject entirely before commencing the treatment of organic stricture.

One may be called upon to relieve retention of urine without any previous history concerning the patient, retention may be due to—

1. Simple Spasmodic Stricture already spoken of.
2. Elongated Prepuce.
3. Organic Stricture.
4. Impacted Calculus.
5. Disease of Prostate.
6. Paralysis of Bladder—Incontinence, &c., &c.

It will not be in my province to speak of the treatment of retention otherwise than in relation to stricture, so I shall now proceed to discuss the relief of retention arising from permanent stricture. If all the means suggested in the early part of the chapter, prove of no avail such as opium, warm baths, chloroform, &c.

The question arises what is next to be done? One sees the patient labouring under the most acute agony, the bladder possibly reaching up to the umbilicus as tense as a ball. Words are indeed feeble in depicting the intensity of his sufferings, whilst his life is suspended by a thread.

What is to be done? Shall we force the stricture, carry the catheter by force on into the bladder, risk everything, thus by a *coup-de-main* overcome stricture and retention. The idea is certainly plausible and sounds easy, but it is more than dangerous in practice, and one which I unhesitatingly assert no circumstances can justify.

Without further preamble, why in cases that call for immediate treatment, waste time in testing patience and skill? Every moment that is so delayed hazards the patient's very life. After speedily essaying every non-operative method, all proving fruitless, take a trocar and canula and puncture above the pubes. Use the door that has been staring you in the face the whole time. The operation has no risk attached to it, and allows one to treat the stricture a few days later, after giving the urethra, stricture, and parts concerned an entire holiday and rest. I hold that knife operations in the perineum at the moment the patient is already unstrung, are inadmissible. There is already enough irritation, therefore why add fuel to fire. A large wound in the perineum must necessarily increase the source of irritation. Relieve your patient firstly, get him into condition secondly, and do what you like thirdly. And in order to arrive at this, I will describe the operation of puncturing the bladder, above the pubes. *

* A note made by Mr. John Shaw in Bell's treatise on "Diseases of the Urethra," &c., 1822:—"The question of punc-

Before describing the operation of puncturing above the pubes, I should like to add a few words to assist the young surgeon in fully appreciating the moment he should adopt operative measures.

1. Where all means for procuring the natural discharge of urine have failed, the stricture admitting no instruments and letting out no water, and the bladder felt above the pubes tense as a ball.

2. Where urgent constitutional distress, retching and hiccup, renders it dangerous to temporise.

3. Where the urethra may be ulcerated at the seat of stricture, and may be allowing extravasation to occur.

Under any one of the above circumstances, or possibly all combined, I think the necessity to make an artificial exit for the urine is imperative. The relief that is afforded to the urethra behind the stricture, from the constant pressure and irritation of urine, is so marked that two or three days afterwards one is often able to pass an instrument, and continue the treat-

ture of the bladder has not been fairly stated, either by the English or French authors, who say, that they have seldom or ever had occasion to perform it; because, in the cases which they have seen, the urine has either dribbled away, or it has been possible to introduce a catheter. The question should be stated thus:—How many patients have died in consequence of an attempt to force a catheter into the bladder? or how many patients have sunk while they were passing even a pint of water daily? Why is the puncture of the bladder now so much dreaded? Is it not because the great surgeons who have written on this subject have had so much aversion to the operation, that rather than do it they have tried every other means, and consequently have protracted so much, that before the puncture of the bladder was made, the patient had been at the point of death?—J. S."

And of course everyone must needs servilely copy the customs of these *great surgeons*.—E. D.-M.

ment by dilatation. Wherefore the object in operating otherwise?

To describe the suprapubic operation now remains.

The patient is placed in a semi-recumbent position, pubes shaved. Make out the symphysis pubis, and immediately above it, make a small nick or incision in the skin of about half an inch, the depth of which will depend upon the build of the patient, whether he be fat or thin. If the former, the scalpel may penetrate a little down into the fat, if thin, a superficial wound is sufficient, in fact, in many cases the trocar may be driven direct into the bladder without any preliminaries, the incision is an advantage needed, if the skin be at all tough. Each side of the abdomen should be supported by an assistant. Choose your trocar, which may be slightly curved, place its point immediately above the symphysis, inclining it obliquely downwards and backwards, and in this position let it be carried into the bladder. (See figure 31.)

As the distended bladder will relieve itself at a considerable rate, it will be as well to allow only a portion of the water to be drawn off to such a degree as the patient will appreciate, and the remainder can be afterwards drawn off by degrees. Too sudden relief and evacuation can give rise to alarming symptoms, and even death, says Sir Henry Thompson, which one can well credit.

Another thing to guard against is the possibility of the bladder slipping off the canula, so that it is advisable immediately the bladder be tapped to introduce through the canula a gum elastic catheter, as large as the canula will admit, and a few hours after the canula may be withdrawn, leaving the catheter properly secured in the bladder. A piece of ordinary drainage

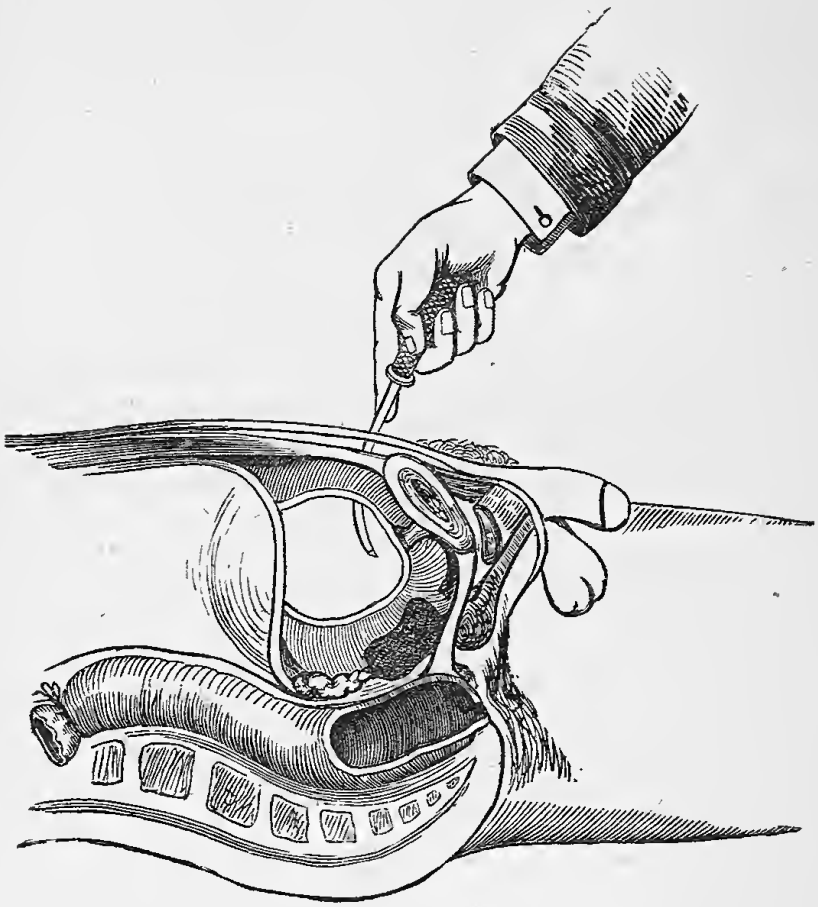


Fig. 31.

tube may be fixed to the end of catheter, and its end placed in a receptacle under the bed, the tube having a spring clip, so that the bladder may be relieved every two hours or so, in order to remove all pressure on the stricture and dilated canal behind.

This can then be retained as long as necessary, or until a catheter is introduced and the urethra dilated, to permit of a free passage of urine, or other operative measures are decided upon. A few hours after the bladder has been relieved from a severe distension, a couple of half drachm doses of Liq. Ergotæ Ext. will be found beneficial.

During the waiting period after operation, all medicines that act by decreasing inflammation, or irritability of urine may advantageously be employed.

Liq. Potassa, ℥x ;
Liq. Opii, ℥v ;
Inf. Buchu, ℥j. ter die.

will be found useful, whilst the bowels must be kept regular, and any constipation avoided.

Of course in the hands of a skilful surgeon the emergency for making an artificial opening in the bladder is not a frequent one, but, as I have elsewhere stated, WE ARE NOT ALL SKILFUL. Nevertheless, I have not the slightest hesitation in stating that in very many cases which have come under the care of many of our rightly called skilful surgeons, and in many cases I personally have seen, it would have been more humane to have punctured the bladder at once than to have tired out patience and skill in endeavouring to overcome an unconquerable stricture. Therefore, I think, after the young surgeon or general practitioner has essayed expeditiously all regular

means, the last means being inhalation of chloroform, and the last attempts at passing the stricture have been foiled, whilst the patient is still under the influence of the anæsthetic, the bladder should be punctured.

CHAPTER IX.

TREATMENT OF PERMANENT STRICTURE.

A FEW preliminary instructions as to the general mode of treating stricture patients will, perhaps, be not out of place here.

A patient calling upon a surgeon in order to consult him about his stricture, is supposed to be suffering from that complaint, and not from retention. Therefore there is on that account no immediate necessity for passing an instrument down the urethra. If, according to his statements, and having seen him pass water, in order that you may notice the size of the stream, you conceive there is a stricture, then proceed to inquire as to its history, its cause, its locality, and its present condition. Bear in mind, also, that if you are the first surgeon he has visited in order to obtain your opinion and treatment, the happiness of his future, as well as your own reputation, are entirely in your own hands.

So far you have the great advantage of everyone in your profession, HE IS UNTREATED. Now, remember that almost every case of stricture of the urethra, is at first simple in its nature, and it is either from the abuse of urethral instruments or neglect that it is rendered complicated. Impress this upon your patient as well as upon yourself. If upon examination, you find the stricture to be most simple

of its kind, and that he is able to pass water in a fairish stream, and that its retention causes neither irritation nor uneasiness, and the urine is *Normal*—DON'T PASS BOUGIES. Possibly all the symptoms that brought him to you might be a few nervous spasms occasioned by the presence of someone when passing water, or some equally small circumstance, although he may have a little thickening in one particular spot. A foreign body in some urethræ sets up immediately irritation which leads on to low inflammation, and, as sure as fate, if you resort in every case to the bougie you will lay the foundation of a more permanent stricture. The patient, perhaps, not considering that the treatment adopted is important enough to improve his condition, will go off to some other man, who will begin bougieing, and he will suffer.

I am well aware of the fact, that in many cases, if a surgeon does not exhibit much formality with the patient in return for his fee, the latter goes away dissatisfied. I am also perfectly well aware that in our days, owing to the crowded state of the profession, patients are not too plentiful, and once getting a patient, one is anxious to do all one can to retain him. Therefore, more sometimes than is necessary is done in order to please that patient. However, take my advice, rather than produce stricture in a man, let the patient—if he chooses to leave your care—go, and let somebody else make the stricture.

Now, as to patients who have been under the care of other surgeons, and in their roamings, knock at your door, and in due course are ushered into your presence. You will soon learn that they have been under treatment. I have not yet met with a previously treated patient who has not appeared to know more about the treatment

than myself. He will begin by telling you all about the different methods adopted by one surgeon and another, and whilst permitting him to talk, you will wonder to yourself how on earth you must begin or act to please this gentleman. I know that is my feeling very often. However, in any case, with these patients who have been under treatment more often than not, the first visit or two, I should say, is not a favourable moment for passing a bougie or catheter. The urethra may be in a highly irritable condition, the presence of false passages may be still more complicating, and consequently, it may be next to impossible to ascertain the true nature and locality of the stricture. Therefore, I most emphatically state that no surgeon is justified in probing about in the dark in a strange urethra to find a passage into the bladder. This is an act of extreme impropriety.

However, to proceed to the methods of treating permanent stricture. In the early part of this work I divided the different methods of treatment of stricture, into Regular and Irregular. It is of the former I propose alone to treat, and beg to refer my readers to the numerous works on surgery, should they be anxious to adopt any irregular or cutting operation. In the class I term Regular, there are two modes, viz.—Simple Dilatation; Prolonged Dilatation. The simple will occupy my attention first.

Having elsewhere incidentally alluded to the more remote diseases which may occasion a train of symptoms in the region of the urinary organs, so closely resembling those attendant on stricture of the urethra, as often to deceive the patient and surgeon into the belief of the existence of that disorder, I will now briefly refer to those other affections of the organs forming the genito-urinary economy, which still more frequently,

from the symptoms they occasion, give rise to a similar error.

These are diseases of the kidneys, stone in the bladder, diseases peculiar to the prostate gland, gleet, and irritable urethra.

Probably, the most frequent cause of those symptoms which lead both the patient and surgeon into error in supposing the existence of stricture, is that chronic irritable condition of the urethra, accompanied by a slight gleety discharge, which so frequently succeeds one or more attacks of acute gonorrhœa. Patients whose urethræ are in this condition have a more frequent desire to pass water than natural, and, on their doing so, there is, at the first commencement of the act, the *slightest possible hesitation*, and a slight heat is felt in some given spot of the urethra, as the first few drops are expelled, whilst the stream of the urine is somewhat twisted. Now, as these symptoms, but perhaps more strongly marked, are similar to those caused by stricture, and, indeed the state of the urethra which occasions them is that which is most favourable to the development of that disease, it is not at all to be wondered at, that they should create suspicions as to the existence of stricture, which suspicions may, by an inexperienced use of instruments, be erroneously confirmed. I would mention a circumstance that may assist to avoid this error; namely, that in the purely irritable urethra, the urine, after the first hesitation I have described is overcome, will be voided in a full and free stream, which obviously can never happen when a stricture really exists.

There are, again, many who can never pass water in the presence of anyone, and if forced to do so through the impossibility of obtaining privacy, they will take some time, and exercise much straining

before they succeed, and not infrequently then utterly fail.

From these facts one will readily understand how both patient and surgeon, inexperienced in the use of instruments, may be led into error with respect to the existence of a stricture. The symptoms which the patient details are those usually attendant on that disease; and on examination being made with a bougie, it hitches against one of the "*natural obstructions.*" What is more natural, under such a combination of circumstances, than that the patient and surgeon should deceive themselves into the belief that the former is labouring under a stricture? Hence, then, the advisability that both parties should be aware of the possible existence of circumstances, calculated to lead them to the formation of wrong conclusions.

With regard to the errors of practice committed in cases in which no doubt existed as to the patient's labouring under stricture of the urethra, the principal one is that of employing force in the introduction and use of instruments. *This is the rock on which the fairest prospects and hopes of a happy issue are too often irrecoverably wrecked.* We may, therefore, regard the following as an axiom, placed beyond all question or dispute, namely, that the pivot on which the success or failure of any one or all modes of treatment turns, is the surgeon's avoidance of violence in the use of his instruments; and this applies to all forms of the disease, and every stage of its progress. But if it be possible or allowable to admit that this rule is more imperative at one time than at another, then it is to my mind more especially to be regarded, in those cases in which patients are for the first time seeking relief at the surgeon's hands. For in such instances, as far as my experience goes, it seldom happens, however great the

difficulty may be in expelling the urine, that the stricture itself is either very extensive or indurated. Indeed, it is often so slight, notwithstanding the great difficulty the patient has in voiding his urine, it is no more than could be made artificially by a piece of ordinary thread passed round the urethra and slightly tightened; whilst it still more rarely happens that the extent of the stricture exceeds the width of a very narrow piece of tape. I have never met with a broad gristly stricture accompanied by external callous indurations along the course of the urethra, except in those cases where many fruitless and violent attempts to pass instruments had been made, or in those exceptional cases in which the stricture has resulted from some external violence and injury done to the parts, and not often then, unless the patient has been grossly negligent.

It is therefore obvious, that when a patient for the first time applies to the surgeon for aid, he does so under the most favourable circumstances for the successful issue of the treatment; and, as far as my experience extends, it is scarcely possible that it can be otherwise than successful, if the treatment be carefully and skilfully pursued. But what should be the treatment in such a case?

Experience has convinced me, that the treatment of an ordinary permanent stricture of the urethra, should, at the commencement, at all events, be that of simple dilatation. At the same time, I beg the reader to understand that when I refer to the treatment by dilatation, I do so in the strictest sense of the term—meaning thereby that the stricture is to be *gently* and *gradually, most gradually, dilated,* by the careful introduction of instruments of such a size as will pass with comparative ease, and consequently without exciting undue pain and re-active irritation.

In this sense then, I say, that in an ordinary case of permanent stricture, in which no previous attempts to pass instruments have been made, the treatment by simple dilatation is the most rational, and most in accordance with those principles, that are inculcated by a knowledge of the cause and nature of the disease.

Fortunately, it very seldom happens, that when a patient first applies to a surgeon under the circumstances I have supposed, he is labouring under a stricture impermeable to instruments. It is therefore of the utmost importance that the surgeon should endeavour to ascertain *at once* what sized instrument will readily pass through the obstruction. This he can soon learn by a careful examination; and, having done so, he must commence treatment by the introduction of such an instrument every second or third day. After he has passed it on several occasions, he should, on withdrawing it, introduce another of a somewhat larger size. But he must be careful, that the increase in size is so slight, that the instrument *will pass easily through the contraction.* If it is *grasped* by the stricture and its progress altogether stopped, whilst the patient complains that it pains him, no further attempt to urge it forward should be made. The instrument may, however, be allowed to remain in the grasp of the stricture for some ten or twenty minutes, always provided its retention does not cause pain. After it has thus remained in the stricture for some time, an endeavour may be made to pass it forwards, but this must be done with the *greatest gentleness.* If it advances, well and good; but if it does not, it should be then very slowly withdrawn. I would here again remark, that it is quite as important to withdraw an instrument from the grasp of a stricture *gently and gradually*, as it is to introduce it gently and gradually. It often happens.

that when an instrument has thus been held in the stricture, without passing fairly through it, spasm is excited, and there is in consequence increased difficulty in expelling the urine; an attack of total retention even sometimes follows.

Whenever retention of urine is thus induced, it will be absolutely necessary that all further operative treatment be suspended until every symptom of *increased action* has subsided. Then the surgeon should endeavour gradually to increase the size of the instruments passed, till one of a full size can be introduced, bearing always in mind that the object is to restore the contracted canal to its natural diameter, *without producing undue increased action, or, in other words, inflammation*, which he will be sure to do if he passes, or tries to force an instrument through the stricture larger than its diameter will properly admit. Not a few instances of failure in treatment are produced by this practice. Hence, it should never be forgotten that, when an instrument can only, from its size, be passed with difficulty and with pain to the patient, the subsequent increased action, which is sure to be excited, not only tends to keep up the existing contraction, but even to increase it; to say nothing of the risk there is of injuring the urethral membrane, by thus endeavouring forcibly to expand the contracted tissues. If the treatment by dilatation is to be successful, it must not merely be carried out in the most gradual manner, but with the utmost regard to the quality and degree of irritability existing both in the region of the stricture, and throughout the urethra generally. Consequently the size of the instruments should be strictly regulated, and such only used, as will pass without exciting more pain or uneasiness than necessarily attends their introduction. As long as instruments are passed in this manner,

however slow the progress may be, an ultimate and complete cure may reasonably be anticipated.

In the foregoing observations, I have supposed that the stricture is of a simple character, and amenable to the remedial power which the mere occasional introduction and temporary retention of instruments may exert upon it. But it may be, that in the progress of an apparently similar case, the surgeon finds some difficulty in the introduction of larger instruments, or he may even experience some difficulty from the commencement of his treatment. The stricture resents, so to speak, the introduction of the instruments, and every attempt to increase their size occasions symptoms of increased action with spasms. In such a case, I would still recommend the treatment by dilatation, in the first instance, in preference to any other. But then it must be by the substitution of prolonged dilatation with catheters for the temporary dilatation with bougies, and by confinement in bed. Cases of this description are very perplexing to those who meet with them for the first time. The surgeon and patient, naturally enough, are afraid that if the stricture be let alone, it will become worse, whilst they are puzzled what to do, by finding that every introduction of instruments excites increased difficulty in expelling the urine, and not unfrequently even brings on attacks of retention, and sometimes also severe rigors. Hence, then, I would recommend that in such cases prolonged dilatation be practised.

Let us now, therefore, consider the treatment by prolonged dilatation.

During the treatment the condition of the urine should be constantly regarded, and the patient should live regularly, taking only a little exercise, and attending to his bowels. The least indiscretion in diet or exercise is liable to cause trouble.

Sexual intercourse should be absolutely forbidden. Having arrived at a successful stage, the urethra being fully dilated, the patient must be taught to introduce the catheter himself, or he may pay dearly for his ignorance. Patients easily acquire the manner of passing instruments down their own urethra. It is best to give them a big bulbous-headed soft catheter, about a No. 9, advising them to pass it regularly once a week. This may of course be discontinued in many cases after a month or two, and passed only every month or so, but in some cases a monthly passing of the bougie for almost the remainder of life is a necessity.

Permanent stricture is due to cicatricial tissue, the result of an injury, or to an effusion of inflammatory matter into the lining membrane, and subjacent cellular tissue, the supply of some source, which, becoming organised, is followed by a narrowing of the canal, producing organic stricture, otherwise Permanent Stricture, and of this form, as elsewhere stated, several degrees exist, but for convenience here permanent stricture will be divided into simple and severe.

In the simple I shall include the thread-like, cord-like, and annular, all more or less easily admitting a small bougie; whilst the severe form will occupy more of the canal, such as the tortuous and cartilaginous, being in some instances impassable, in others accompanied with false passages, fistulæ, and other complications.

It is the former that are more amenable to treatment by simple dilatation, and the latter that require the prolonged treatment which we are now about to discuss.

Over one hundred years ago John Hunter said that when a bougie can readily pass a stricture, there is no

necessity for using any other method to remove the stricture. His advice would have been still more valuable, had he said, if no matter how *small* a bougie or instrument can be passed, no other method is required.

Now, taking one of these so-called impermeable strictures, whether the patient has had treatment at other hands, whether it be old stricture, located somewhere in the spongy portion of the urethra, whether it be spasmodic and irritable, and all possible complications superadded, so that if by some means a passage through the stricture is gained, the treatment can be continued by dilatation alone.

Now to treat a stricture just described, or in fact any stricture requiring prolonged dilatation, one must attend to the general health, and subdue local inflammation, before dreaming of entering on local measures. Too much stress on the preliminary treatment cannot be placed. To ignore it is culpable in the extreme, and exposes the surgeon to failure.

In dilatation the rule is to proceed as cautiously and gently as possible, avoiding all risk of irritation. I should therefore proceed in this manner. A week before confining the patient to his room and bed I order my patient to take a good hot bath every night, retiring to bed early. I strictly prohibit wine, spirits, or beer, and advise most plain food, farinaceous puddings, and milk and soda or barley water as a drink. I regulate his bowels by means of Pil. Hyd. Subchlor. Co., gr. iij or v (a capital pill) at night, and a little Hunyadi Janos or Friedrichshall water in the morning. During the day I order him to take the following—

℞ Succus Hyoscyami, ʒss ;
Inf. Buchu, ℥ij. Ter die.

According to the irritability of the stricture, so can the doses be graduated, increased or diminished. At

the end of a week generally, my patient is feeling much better, in many cases passes his water more easily, and most certainly a large amount of irritation in the urethra has disappeared.

He is then ready to lie up, and instrumental treatment is proceeded with in this manner—

1. I pass an instrument, no matter how small, through the stricture into bladder, using much care not to irritate the urethra or stricture (I need not say I employ the instruments already described in the Chapter on Catheterism.)

2. I never employ force of any kind, giving the sufferer and myself the benefit of all the patience and indulgence human nature can afford.

3. Should I meet with obstructions, I endeavour to evade them, not to force them.

4. When the passage is gained, and the instrument in, I use precautionary measures to prevent or subdue any constitutional disturbance that may arise from presence of foreign body in urethra.

Now this treatment by dilatation must be carried on slowly, patiently, and with extreme care; if there be any hurried work, the process of absorption, by which the stricture is to be removed, will be arrested, irritation will be renewed, and the principle of the operation (that of promoting a gradual absorption) thwarted.

Where water can pass, there must be a conduit for it, even though it may pass by drops. True, the canal may be narrowed to the smallest possible limits, almost to obliteration. It may be tortuous and intricate, still it exists, and when once, by any particular method, an instrument is introduced through it, it may be left there to begin the treatment, and there is no just cause, why an ultimate cure

cannot be expected. In beginning the cure of an intricate stricture or of an old small stricture, it is obvious that the first important difficulty is the introduction of an instrument through the stricture into the bladder. To this point and its accomplishment must our whole attention be directed. I trust that the Chapter on Catheterism, wherein are introduced one or two new ideas, will give to my reader the means whereby a happy issue may attend his endeavours to pass a small or complicated stricture.

With all this, however, something more is necessary in conducting the cure of a case of stricture. Although apparently simple as it sounds, "MERE DILATATION," yet it must be remembered that the part that is to undergo dilatation holds an extensive relationship with the entire system, and is in full sympathy with it.

Therefore it is necessary that the general health be attended to, as there are few diseases in which constitutional derangements may not supervene and interrupt the progress of the cure.

There are two classes of symptoms in the treatment of stricture which may require the attention of the surgeon—

1. Those arising from the unhealthy condition of the entire system, attending and produced by stricture.
2. Those often induced by the presence of the foreign bodies in the urethra, which must be employed for the cure of stricture.

Therefore something more than introducing instruments into the urethra for the cure of stricture is required. The general health must attract serious and constant attention.

A very good example may here be mentioned of the

mischief produced by the purely instrumental treatment of stricture, for which I must again quote Abernethy. After discussing irritable urethra and strictures due to constant bougieing, he says—

"One of the most striking cases occurred in an old nobleman who had very bad stricture, he had bougies introduced too frequently, by which the disease was kept up, and the urethra irritated so much, that at last he could only make water in drops. His medical attendants said that he must apply to Sir Everard Home, and get the Caustic Bougie passed. He did not like the thought of a caustic bougie, and he determined to consult some more eminent surgeon."

[This old nobleman should have devoted the remainder of his life in prayer and thanksgiving for the wisdom which God infused in him, and being saved from an untimely and unnatural death.]

Abernethy continues—

"How he stumbled upon me I do not know. However, I discovered that his urethra was in a very irritable state, and told him that I should advise him to bathe the parts frequently with tepid water, and take some mild aperients, to regulate his diet, and set his digestive organs to rights; to allow a little time for the irritation of the canal to subside, and that if he would do me the favour of waiting on me again in a week, or if I waited on him, I would then pass a bougie. He did not appear to think much of it, and said it was a very nugatory [futile] practice. 'And will your lordship permit me to say,' I replied, 'that you are no judge of it.' He was so much better at the end of a week that I was able to pass a larger bougie than could have been passed for a long time before. First soothe and allay the irritability of the urethra, and then adopt the use of bougies."

We must now presume a case as an illustration. By some means a flexible bougie of No. 1 size has been passed into the bladder through the stricture. It must be retained for at least twenty-four hours (the method for fastening it in can be at the choice of the surgeon who is operating, each possibly having his own idea on the subject, the object in view, however, is safely fastening the instrument in). The end must be plugged with a piece of wood. The probability is that in from twenty-four to thirty-six hours the catheter will be freely movable. If it is not, we must wait till it is, before introducing a larger size. When, however, we are passing the next size, we must take care that it does not fit the stricture too closely.

Continue this till a No. 6 can be introduced. With the smaller instruments, there has hitherto been room for a more or less free exit of the purulent matter that is always the result of a retained instrument.

As, however, the increasing size of the instrument more and more completely fills the urethra, and impedes the escape of the purulent discharge, the idea struck me that whilst employing the catheter as a dilator, I could also make it serve as a drainage tube, and by means of an ordinary syringe, wash the urethra out several times a day with a weak boracic acid solution, slightly withdrawing and rotating the catheter, in order that nearly the whole of the urethra may enjoy the effect of the cleansing.

There is no reason, should the patient experience no inconvenience from the retention of the catheter, after three or four days, why he should not have a loose pair of trousers and a dressing gown on, and lie upon a sofa, or be made comfortable in an easy chair. Strict confinement to bed cannot be borne by all patients.

These catheters are simply the ordinary gum elastic, fashioned like a drainage tube, and can be obtained at

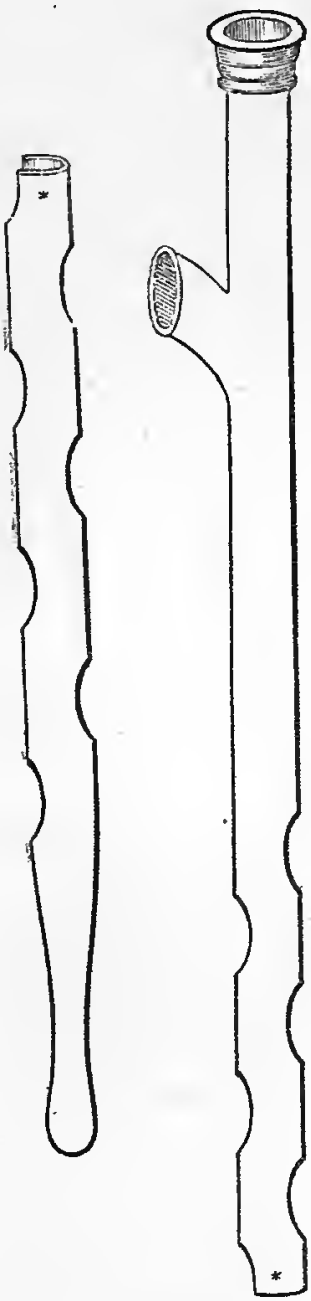


Fig. 32.

Messrs. Walters, of Moorgate Street. Fig. 32 is a diagram, giving the reader simply an idea of their construction. The little arm is the outlet for the return flow in washing out the urethra. I have had little composition stoppers made for closing the outlets.

However, with these catheters I continue increasing the size, in their order, uutil the canal is fully dilated. That point gained I dispense with the drainage system, and I introduce a silver instrument or bougie every day for a week, merely passing it and withdrawing it, which bougie I lubricate with ung. cetacei. This I find has a very cooling, soothing, and healing effect on the urethra.

The opportunity may now be taken of instructing your patient to pass an instrument, as circumstances will not always permit of his seeing you regularly, or perhaps for some very long time, and in order to keep the stricture dilated, it is necessary that an instrument be regularly passed. He should at the same time be well impressed, that any neglect or irregularity on his part will favour a return of the stricture.

In some strictures, after a periodical passing, the bougie may be discontinued; in others it has to be maintained more or less throughout life, so no rule can

be laid down. The surgeon must be guided by each individual case.

The best instrument to give your patient to take with him (should he need one) is a No. 10, with a large well-rounded head, and not too thin a neck. A catheter is perhaps better than a bougie, as he is certain on seeing his urine flow that the instrument is in the bladder.

To give pain is to induce reaction. Always preserve this idea. While you are proceeding without causing pain or uneasiness, the final, though very slow removal of stricture may be counted a certainty. The total removal of the stricture must be a most gradual operation if you wish for steady success.

I on no account permit a patient to leave my care until all signs of tenderness and inflammation have disappeared from the canal.

A few words on complicated, or so-called impermeable, stricture. Although it is not strictly impassable in many cases, as the word impermeable implies, as a so-called impermeable stricture may be permeable to many, and *vice versa*. In my experience the so-called impassable stricture is a test of the quality and skill of the surgeon.

These strictures are generally very old, neglected, tortuous, gristly, or cartilaginous in character, and vary from half an inch to one or more inches in length, but, as already stated, very rarely of great length. I have had under my care one or two between an inch and an inch and a half long, ante scrotal.

These strictures are more often the result of injury (traumatic) than any other cause, although a long neglected, badly treated gonorrhœa, caustic injections, &c., have undoubtedly much to answer for. It is in the lower class, however, one meets with these strictures, and rarely in the well-to-do and aristocratic world. It is not uncommon to find this stricture com-

plicated with urinary fistula. It will be going beyond my province and intention, if I go into the methods of treatment for complicated stricture. It would be waste of time and labour, for I feel sure that those for whom my book is intended, would have neither time, patience, inclination, nor instruments, to undertake the cure of such cases. Suffice to say, that if by any means they can manage to pass an instrument through the stricture, they may attempt continuous dilatation, and much relief will be afforded to the patient, but unless he is constantly under the supervision of his medical adviser, contraction may readily return in those strictures in which the canal is greatly implicated. Still, where an instrument can be made to pass, then dilate.

If, however, you fail in passing an instrument where there is retention, and symptoms are urgent, puncture the bladder above the pubes. We may refer to the instructions given on p. 128. After two or three days you may succeed in introducing an instrument. Here I leave you to act as wisdom best guides you; continue dilatation, seek more experienced advice, or even operate if you think fit.

However, as few busy practitioners would undertake the responsibility, and my advice is "*Don't,*" I shall no longer waste my reader's time on the subject.

Prognosis.—The ordinary true stricture the profession is most frequently called upon to treat, when it is not of long standing, and it has not had time to cause serious lesions of the urinary tract or organs, is neither dangerous nor difficult to cure. Should however, it be neglected, or the patient fall into ignorant or unprincipled hands, and it be allowed to make progress, inflammation spreads to neighbouring organs, and the consequences are liable to be very serious, severe renal

disease, uræmic convulsions, &c., will close the scene.

Again, the nearer the orifice a stricture is, the less serious it is, and the easier to manage and cure. On the other hand, the deeper or nearer the bladder it is the more dangerous it becomes, and the more difficult its cure.

In these old permanent strictures, one can derive from medicinal means no other assistance than that which they supply towards diminishing irritation.

Before closing this chapter I should consider myself at fault if I did not quote Sir Henry Thompson's views on the treatment of stricture, although I cannot unreservedly endorse them all. They are these—

"That no single species of treatment ought to be vaunted as one exclusively appropriate method. Perhaps in no department of surgical therapeutics has such dogmatism prevailed; perhaps in none is it so unwarrantable. Every surgeon who possesses tact, patience, judgment, and, of course, the requisite experience, may undoubtedly treat successfully by his own favourite method, whatever it be, a large proportion of the cases that apply to him. But his success should not lead him to imagine or endeavour to persuade the world that his method is the only true one."

However, as far as the treatment recommended here goes, I think I may safely say there are few cases, which will not yield to it, provided patience, skill, and care predominate in the surgeon's character, and the patient exhibits a small amount of common sense as to his future mode of living, and pays an occasional visit to his surgeon.

To prevent the recurrence of stricture, is often very difficult, and in some cases impossible, unless the

utmost care is taken in carrying out the after treatment, no matter what method has been practised for its cure.

However perfectly or near to its normal state the canal has been restored, immediately the patient quits the surgeon's care, the surgeon's reputation and the patient's future happiness rest upon the mode of living of the latter. There is unfortunately nothing to prevent patients from exposing themselves to new sources of excitement and inflammation.

In the treatment of stricture of the urethra there is one *bête noire*, namely fever, which has been termed urinary fever, urethral fever, catheter fever. However, as its different appellations are of no moment, one need not be detained discussing that point, suffice to say that in treating a stricture we may often have to encounter this very objectionable complication. A sudden rise of temperature from within an hour to several hours after introduction of instrument, with or without a shivering attack, followed by an unhealthy dry heat of the skin, and all the symptoms of fever, ending in a profuse sweating, and the patient relieved again. All these symptoms may take place within a few hours or may be prolonged over two or three years.

One premonitory symptom I have noticed in many cases, after the instrument has been in the urethra for an hour or so, the patient has complained of a severe splitting headache; upon this I have taken the temperature, and found various rises of temperature according to the severity of the case. From the simplest to the worst form of stricture, we are liable to have this fever to contend against in its treatment.

Personally I have been fortunate enough not to have had many severe cases. However, where it is my misfortune to meet with this complication, as soon as the

headache or any symptom makes its appearance I give 1 grain of opium in pill, a drink of warm milk, wrap my patient well up, a hot water can to his feet, and as soon as free perspiration is induced I relieve him gradually of extra wraps. After two or three hours I give another grain of opium. I allow him any quantity of milk or milk and soda as a beverage, and keep him on milk diet for a day or two. It is advisable if possible to keep the instrument retained in urethra, and unless the symptoms are very bad, there is no occasion to withdraw it.

I have in a good many cases before operating given a dose or two of aconite, and also during the retention of the instruments, I have given from 5 to 10 minims daily. Whether this has warded off the fever or not, I cannot say, but the cases have been uncomplicated with fever.

In every case pay attention to the bowels. Plummer's pill, gr. x at night, and a wine glass of Hunyadi Janos in the morning is the best means I can recommend.

For a full and good account of this fever, I would recommend my readers to Ashurst's "International Encyclopædia of Surgery," vol. vi, p. 517 *et seq.*

General conclusions are impossible regarding the majority of cases of urinary fever. The rate of individual idiosyncrasy and varieties is so great that the special circumstances of each case vary any general rule that might be laid down.

In conclusion, I trust that the system of treatment I recommend, resting as it does upon the observation of a number of cases, upon the careful consideration of facts, and upon practice, may by more extended adoption and experience alleviate the sufferings of numerous patients, and be found worthy of the attention I venture to claim for it.

ADDENDA.

BEING conscious only of one fact, that I had performed my work with honesty and impartiality, this book was on the eve of going to press. I was about to launch my bark on the waters, trusting solely to fate as her skipper, anxious as to her successful or disastrous return.

In this frame of mind, I was preparing myself for the verdict of Public Opinion.

My feelings on Saturday, April 16th, 1887, may be imagined when on taking up the *Lancet* I read the following :—

"CHRONIC URETHRAL DISCHARGE.

"This ailment is one which not unfrequently proves singularly intractable, and calls into requisition all the acumen and practical skill of the surgeon for its successful treatment. It is a disorder of a symptomatic nature which owns many sources of origin, mostly local, but sometimes in part constitutional. What is the appropriate remedy in one case may be, on the whole, unsuited to another, so that empiricism in medication is apt to fail where a rational course of procedure gives the happiest results. It must not be assumed that all cases of urethral catarrh are gonorrhœal—we use the latter term in its clinical, not its pathogenic sense,—for not seldom one meets with patients suffering from chronic discharge, concerning whom the practitioner elicits no evidence to prove or suggest that the disorder is the consequence of impure intercourse. The menstrual flux, lochial flow, or the acrid vaginal secretion often met with in pregnant females, are severally capable of setting up acute or subacute urethritis, which when once initiated may

give considerable trouble to eradicate. The complaint, whatever its cause, is, in the ordinary routine of practice, too often assumed to be entirely local in its nature as it was in its incidence. But just as in a strumous individual some slight irritation is apt to start a troublesome attack of eczema, so in patients of a pyogenic tendency urethral catarrh may vary in intensity and duration far beyond the measure of its primary cause. In such cases ferruginous tonics, a bland regimen, and mild astringents are the appropriate treatment. Again, we have known instances in which the removal of obstruction to the free circulation through the hæmorrhoidal vessels has acted beneficially on the urethra—such, for example, as the removal of piles or the cure of chronic constipation. If the discharge is dependent on urethral granulations, the site of which is frequently indicated by increased sensitiveness to catheterism and resistance to the passage of the instrument, then gentle pressure with a bougie, continued for, say, a quarter of an hour at a time and repeated two or three times a week, may suffice. Or the pressure may be combined with the application of some astringent in the form of soluble gelatine medicated bougies. On the supposition that the morbid action depends on the vitality of certain microscopical organisms, some surgeons advise the employment of antiseptics, such as iodoform, eucalyptus oil, &c., weak solutions of perchloride of mercury, and the like. These chemical substances are inimical to the life of micrococci, and, moreover, tend to check the physico-chemical reactions involved in the decomposition of animal matter. We cannot deprecate too strongly the unrestricted use of strong astringents—or even of weak solutions for the matter of that; for we are convinced that it is not a rare event for chronic urethral discharge to be perpetuated by the very means adopted for its removal. Nay, further, it is not too much to assert that not a few cases of stricture owe their origin to the practice of doing too much. It should be borne in mind that urethritis has a tendency to get well of itself, and that the tendency may fail in giving place to accomplishment on account of meddlesome surgery."

Those who have done me the honour of perusing my feeble attempts at authorship, will I am certain appreciate my feelings.

To wake up one morning after months of toil to find your work independently and unintentionally endorsed by the highest authority in the Medical Profession is indeed a crowning moment. Fortune has awarded me so far the guerdon of success.

Without undue elation, I now offer my work to the Medical Profession with confidence commensurate with the fear I felt a few short hours ago, lest I might prematurely issue it to that Public.

E. D.-M.

April 18th, 1887.

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